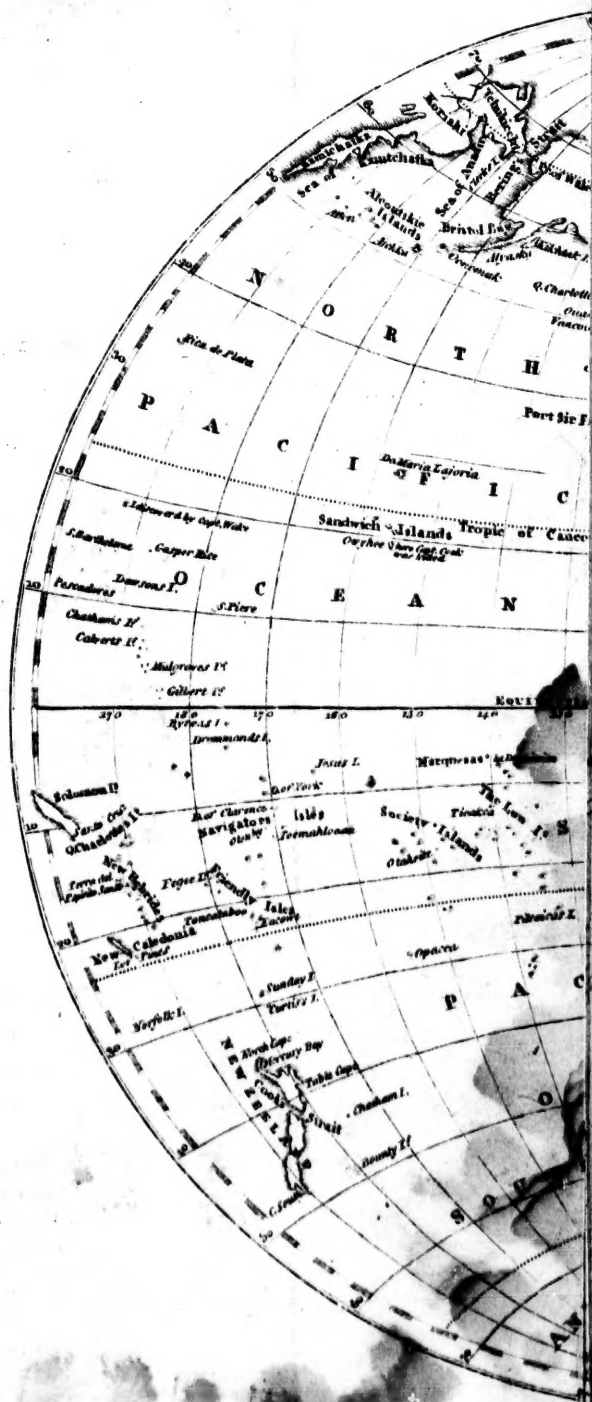








# THE WORLD.









# MODERN GEOGRAPHY.

## A DESCRIPTION

OF THE  
EMPIRES, KINGDOMS, STATES, AND COLONIES;

WITH THE  
OCEANS, SEAS, AND ISLES;

*IN ALL PARTS OF THE WORLD:*

INCLUDING THE MOST RECENT DISCOVERIES AND  
POLITICAL ALTERATIONS.

*DIGESTED ON A NEW PLAN.*

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BY JOHN PINKERTON.

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THE ASTRONOMICAL INTRODUCTION  
BY M. LA CROIX,  
TRANSLATED BY JOHN POND, ESQ. ASTRONOMER-ROYAL.

CAREFULLY ABRIDGED FROM THE LARGE WORK  
IN TWO VOLUMES, QUARTO.

*WITH MAPS.*

*To the whole are added,  
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And an ample Index.*

THE THIRD EDITION,  
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LONDON:

PRINTED FOR T. CADELL AND W. DAVIES, STRAND; AND LONGMAN, HURST, REES,  
ORME, AND BROWN, PATERNOSTER-ROW.



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## P R E F A C E.

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**T**HE importance of geography as a science, and the exuberant variety of knowledge and amusement which it exhibits, are themes too trivial for argument or illustration. Eagerly attached to this study from his early years, the author always cherished a hope that he might contribute his labours to its advancement. For much remained to be done; and many literary men have long admitted, that great advantages might be derived from a new and improved system of modern geography, the latest popular works of this nature not only abounding with numerous and gross mistakes, but being so imperfect in their original plans, that the chief geographical topics have been sacrificed to long details of history, chronology, and commercial regulations, wholly extraneous to the very nature of such a design. When to this it is added, that the most recent and important discoveries are either omitted, imperfectly illustrated, or so defectively arranged as to embarrass and baffle the research of the most patient inquirer, there is no reason to be surprised at the general confession, that such compilations are only used because there is no better extant.

The successive discoveries in the Pacific Ocean, and other parts of the globe, have, within these few years acquired such a certainty and consistency, that they may now be admitted and arranged, in a regular and precise distribution of the parts of the habitable world; while the recent discoveries of La Perouse, Vancouver, and other navigators, nearly complete the exact delineation of the continental shores. No period of time could be more favourable to the appearance of a new system of geography, than the beginning of a new century, after the elapse of the eighteenth, which will be memorable in all ages, from the gigantic progress of every science, and in particular of geographical information; nor less from the surprising changes which have taken place in most countries of Europe, and which of themselves render a new description indispensable. Whole kingdoms have been annihilated; grand provinces transferred; and such a general alteration has taken place in states and boundaries, that a geographical work published five years ago may be pronounced to be already antiquated.

A new system of geography is also specially authorized and authenticated, by the singular advantage of several important books of travels having appeared within these few years, which introduce far more light and precision into our knowledge of many regions. The embassies to China, Tibet, and Ava, for example, present fresh and authentic materials, without which recourse must have been had to more remote and doubtful information; and the Birman empire is unknown to all systems of geography. The Researches of the Asiatic Society, and other late works, diffuse a new radiance over Hindostan, and the adjacent countries. The labours of the African Society, the Travels of Park, Browne, and Barrow, have given more precision to our imperfect knowledge of Africa: and the journeys of Hearne and Mackenzie have contributed to disclose the northern boundaries of America. In short, it may be safely affirmed, that more important books of Travels and other sources of geographical information, have appeared within these few years, than at any period whatever of literary history.

Nor must the rapid advances of natural history be forgotten, which now confer such superior precision on the natural geography of most countries. Not only have zoology and botany received the greatest improvements; but geology and mineralogy have, within these twenty years, become entirely new and grand sciences; the substances being accurately arranged, and described with such clearness, that throughout the literary world they are exactly known and discriminated.

Yet even with such advantages geography is far from being perfect; and the familiar exclamation of D'Anville in his old age may still be adopted: "Ah! my friends, there are many errors in geography." This science may indeed be regarded as imperfect in its very nature, as no reasonable hope can be entertained that all the habitable lands shall, at any period of time, pass under a trigonometrical survey, the only standard of complete exactness. The chief defects are the interior parts of Africa, and many portions even of the shores; Tibet, and some other central regions of Asia, nay, even Persia, Arabia, and Asiatic Turkey; the western parts of North America; and the Spanish settlements in that part of the new continent; with the central and southern parts of South America. Of New Holland little is known, except the shores: and many discoveries remain to be made in the Pacific Ocean, particularly the extent and interior part of New Guinea, and other large lands in that quarter. Even in Europe the geography of Spain and Portugal is very imperfect, though not so defective as that of European Turkey; nor can we loudly boast while, as Major Rennell informs us, there is no exact chart of the British Channel; and the trigonometrical survey, so far as it has extended, has detected gross errors in the maps of the counties. We have indeed been generally more attentive to remote regions, than to our native country; and could a new system have been published with more advantages, than in the kingdom which has given birth to the greatest modern discoveries and improvements in geography?

With



## PREFACE.

With the advantages, above enumerated, of new and important discoveries, of recent and authentic intelligence, and of the particular period of publication, there cannot be any great claim of merit in presenting a more complete system of geography, than has yet appeared in any language; for the Spaniards and Italians have been dormant in this science, the French works of La Croix and others are too brief, while the German compilations of Busching, Fabri, Ebeling, &c. &c. are of a most tremendous prolixity, arranged in the most tasteless manner, and exceeding, in dry names and trifling details, even the minuteness of our Gazetteers. A description of Europe in fourteen quarto volumes may well be contrasted with Strabo's description of the world in one volume: and geography seems to be that branch of science in which the ancients have established a more classical reputation than the moderns. Every great literary monument may be said to be erected by compilation, from the time of Herodotus to that of Gibbon, and from the age of Homer to that of Shakspeare; but in the use of the materials there is a wide difference between Strabo, Arrian, Ptolemy, Pausanias, Mela; Pliny, and other celebrated ancient names, and modern general geographers; all of whom, except D'Anville, seem under-graduates in literature, without the distinguished talents, or reputation, which have accompanied almost every other literary exertion. Yet it may safely be affirmed, that a production of real value in universal geography, requires a wider extent of various knowledge than any other literary department, as embracing topics of the most multifarious description. There is however one name, that of D'Anville, peculiarly and justly eminent in this science; but his reputation is chiefly derived from his maps, and from his illustrations of various parts of ancient geography. In special departments Gossellin, and other foreigners, have also been recently distinguished; nor is it necessary to remind the reader of the great merit of Rennell and Vincent in our own country.

With such examples, the author confesses his ambitious desire that the present work may, at least, be regarded as more free from defects than any preceding system of modern geography. By the liberality of the publishers, no expence has been spared in collecting materials from all quarters; and the assemblage of books and maps would amount to an expence hardly credible. If there be any failure, the blame must solely rest with the author; who being however conversant with the subject, from his early youth, when he was accustomed to draw maps, while engaged in the study of history, and never having neglected his devotion to this important science, he hopes that the ample materials will be found not to have been entrusted to inadequate hands. He may affirm that the most sedulous attention has been exerted, in the selection and arrangement of the most interesting topics; and he hopes that the novelty of the plan will not only be recommended by greater ease and expedition, in using this work as a book of reference; but by a more strict and classical connection, so as to afford more clear and satisfactory in-

formation on a general perusal. The nature and cases of the plan shall be explained in the preliminary observations, as being intimately connected with other topics there investigated. It may here suffice to observe, that the objects most essentially allied with each other, instead of being dispersed as fragments, are here gathered into distinct heads or chapters, arranged in uniform progress, except where particular circumstances commanded a deviation: and instead of pretended histories, and prolix commercial documents, the chief attention is devoted to subjects strictly geographical, but which in preceding systems have often appeared in the form of a mere list of names, the evanescent shades of knowledge. Meagre details of history can be of no service even to youth, and are foreign to the name and nature of geography, which, like chronology, only aspires to illustrate history; and, without encroaching upon other provinces, has more than sufficient difficulties to encounter. The States are arranged according to their comparative importance, as it is proper that the objects which deserve most attention should be treated at the greatest length, and claim the earliest observation of the student.

Mr. Pond has rather chosen to translate the able introduction of M. La Croix, to the French editions of this work, than to display his own talents on the parts of astronomy, which are connected with geography. For the botany of the several countries this work is indebted to Mr. Arthur Aikin, a zealous and intelligent cultivator of natural history. It may be necessary to remind the unlearned reader, that the Latin names in this part are unavoidable, because plants not known in England must rarely admit of English appellations.

Amidst other advantages already indicated, the regular references to the authorities, here observed for the first time in any geographical system, will be admitted to be a considerable improvement, not only as imparting authenticity to the text, but as enabling the reader to recur to the best original works, when he is desirous of more minute information. Yet this improvement is so simple that the omission might seem matter of surprize, were it not that former works of this nature will generally be found to be blindly copied from preceding systems, with the sole claim of superiority in error, as must happen in such cases, where mistakes multiply, and an old hallucination becomes the father of a numerous progeny. The strict quotation of authorities might also be rather dangerous in erroneous details; and the omission is as convenient, as it is to pass in silence geographical doubts of great importance, which might prove perilous ordeals of science. Accustomed to the labours and pleasures of learning merely for his own mental improvement, as the delight of his ease, the relief of care, the solace of misfortune, the author never hesitates to avow his doubts, or his ignorance; nor scruples to sacrifice the little vanity of the individual to his grand object, the advancement of science. An emphatic Arabian proverb declares that *the errors of the learned are learned*; and even the mistakes

takes of a patient and unbiassed inquirer may often excite discussion, and a consequent elucidation of the truth.

A few words remain to be said concerning the principles on which the present abridgment of the original work has been formed. The quarto edition, from its magnitude and consequent price, is little calculated for general use as a school book, and for the same reasons may not be easily accessible by many who would gladly avail themselves of it in a cheaper form. To supply this want, the edition which is now submitted to the candour of the public, has been prepared with much labour and pains. The style of the original, being for the most part as concise as is consistent with perspicuity, has allowed, comparatively, but few opportunities for succeeding condensation; but wherever this was possible, it has been carefully practised. The geographical discussions interspersed throughout the work, as being the least necessary to the young student in this science, have been curtailed with less reserve; much also of the technical and least interesting parts of the botany and mineralogy has been omitted. Other abbreviations of smaller consequence have been made, which it is unnecessary to particularize.

Many particulars have been added from the late general enumeration of the inhabitants of England and Scotland; the provincial subdivisions of the European states have also been inserted, and such other additions and alterations made as might give to the work a fair claim on the patronage of the public.

To this new edition of the Abridgment is subjoined an ample index, which will be found useful, as it may often supply the want of a gazetteer.

The plan of the present work has met with general approbation at home and abroad, as being more clear and connected than any before adopted. The proper arrangement, indeed, of any book of science is justly regarded by all judges as the most essential quality. In the education of youth, in particular a clear and lucid order becomes indispensable, as imparting pleasure in the midst of instruction, and as tempting to read what was before studied as a task, or only resorted to in cases of necessary consultation. Youth is often deterred from improvement by the use of confused and antiquated systems, at which even knowledge would revolt, and erudition itself be embarrassed. Throughout the whole of this abridgment accuracy has also been studied as far as human frailty would permit; for in education ignorance itself is preferable to error. The scientific works of France have been long celebrated for clearness of arrangement; yet the present abridgment, even at a period of violent animosity, has been preferred to their own elementary books of geography, and adopted in their colleges and academies; and experience has declared, that the attempt has been followed by more speedy and solid instruction.

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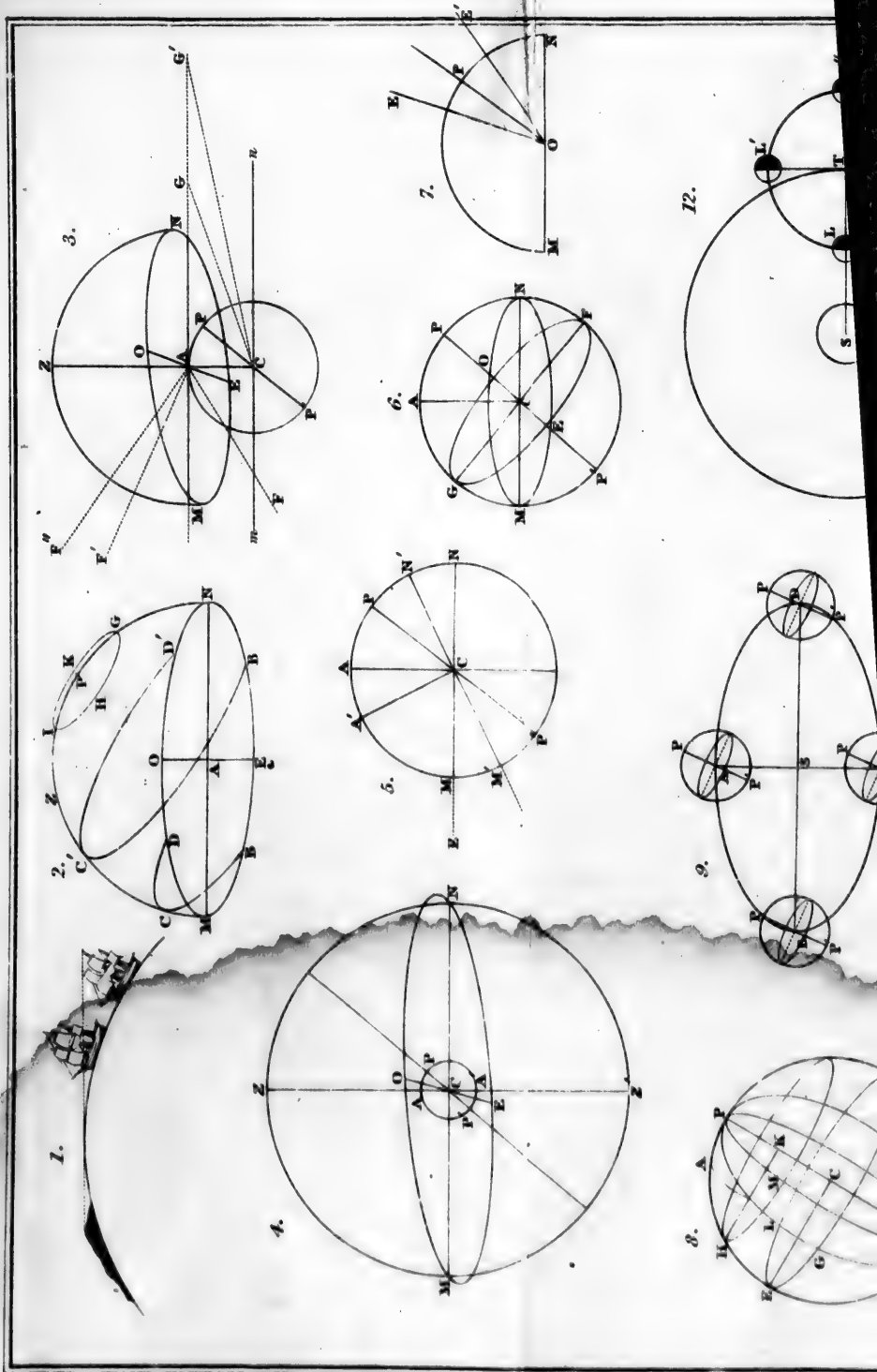
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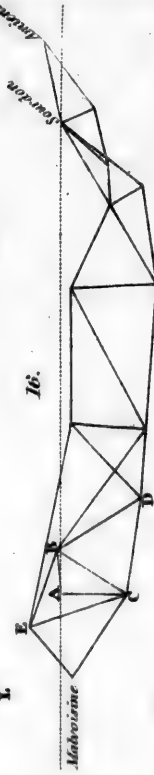
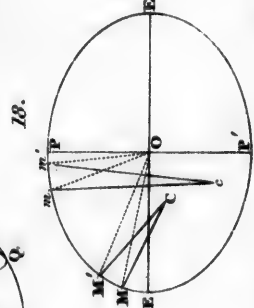
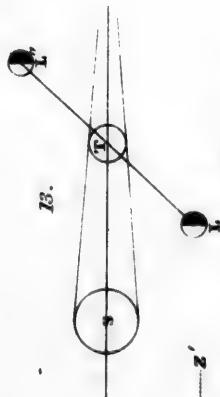
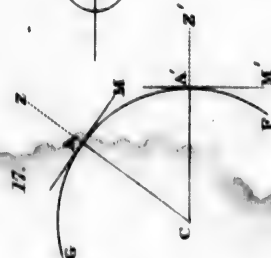
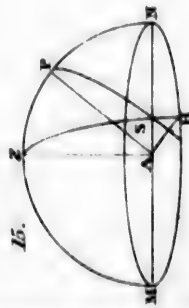
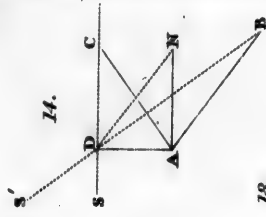
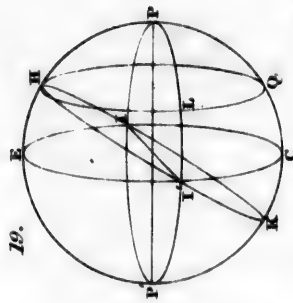
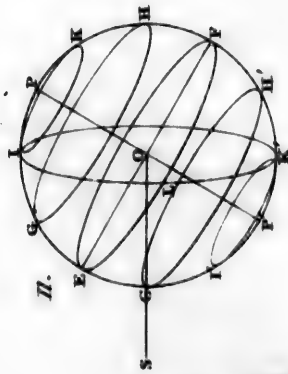
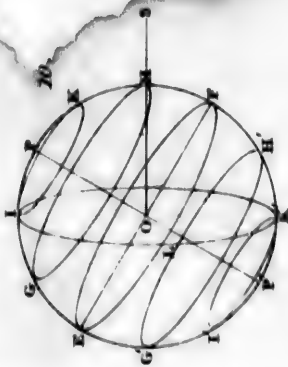
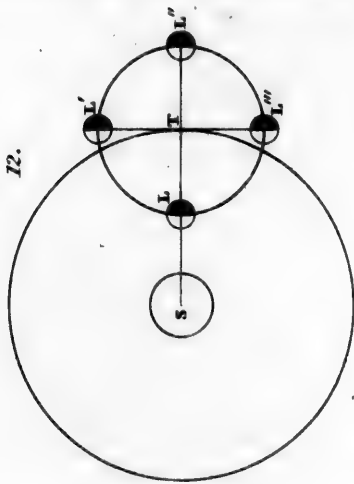
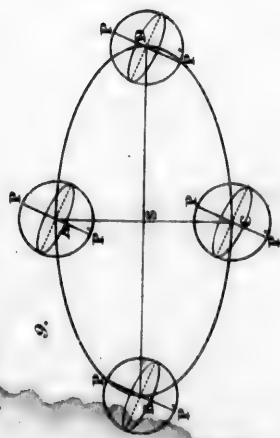
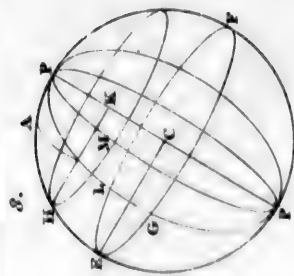
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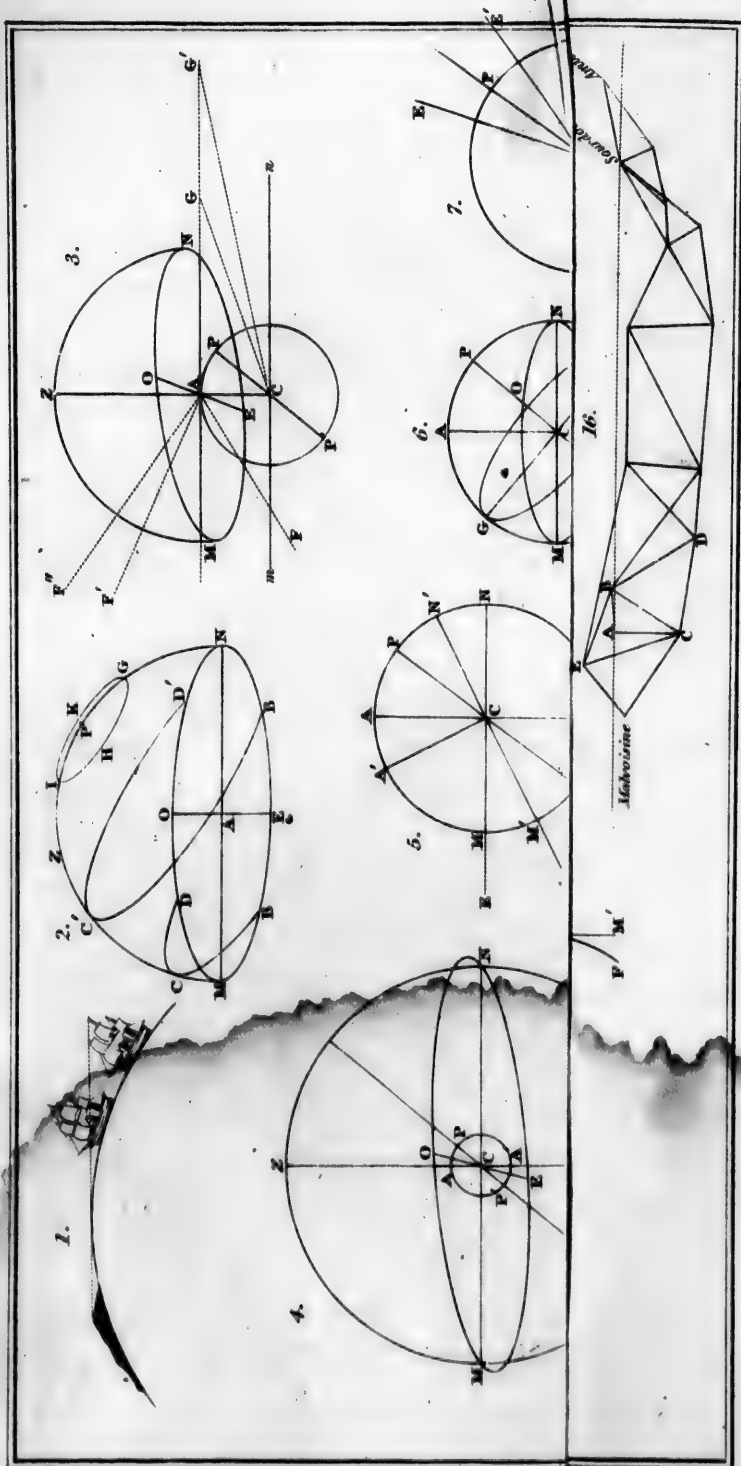
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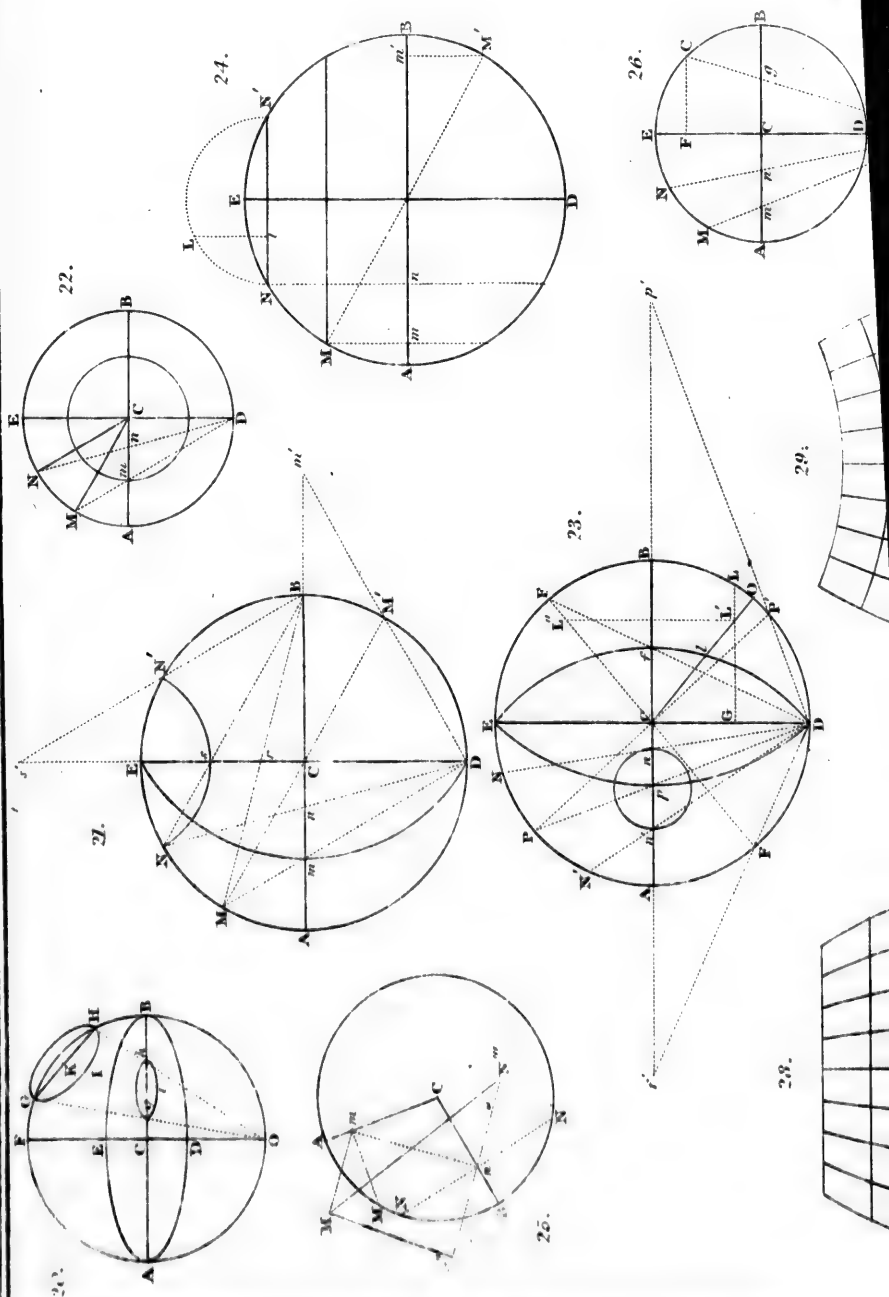


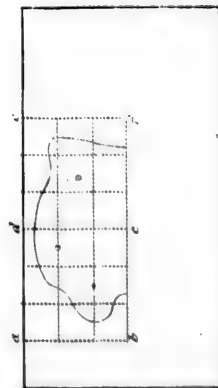
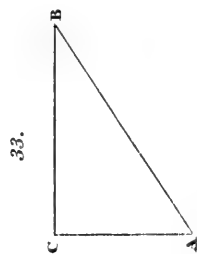
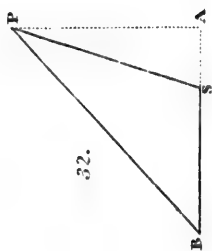
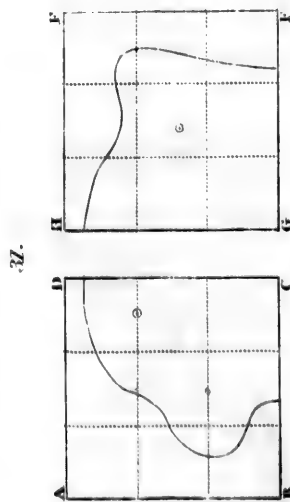
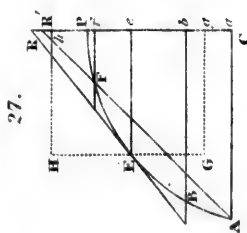
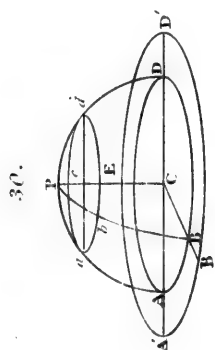
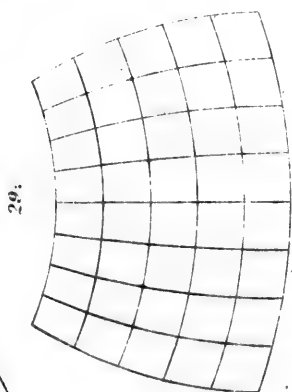
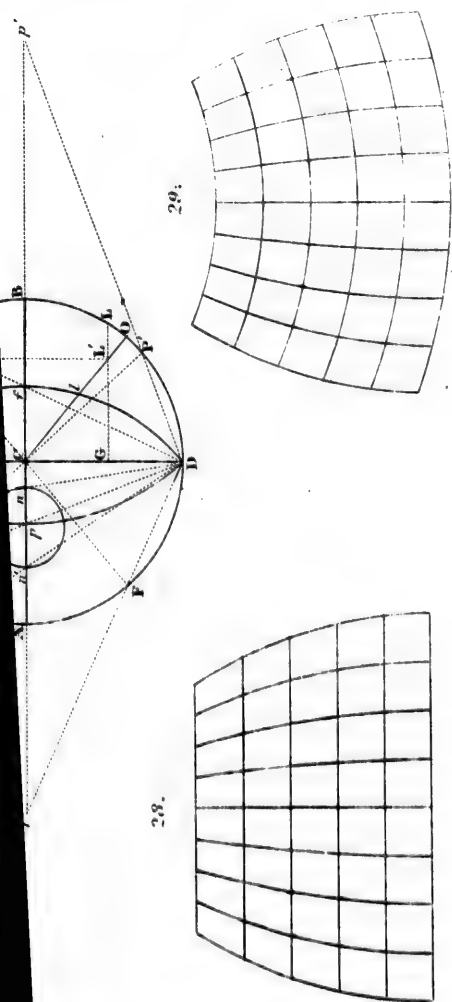
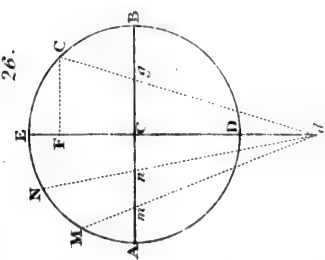






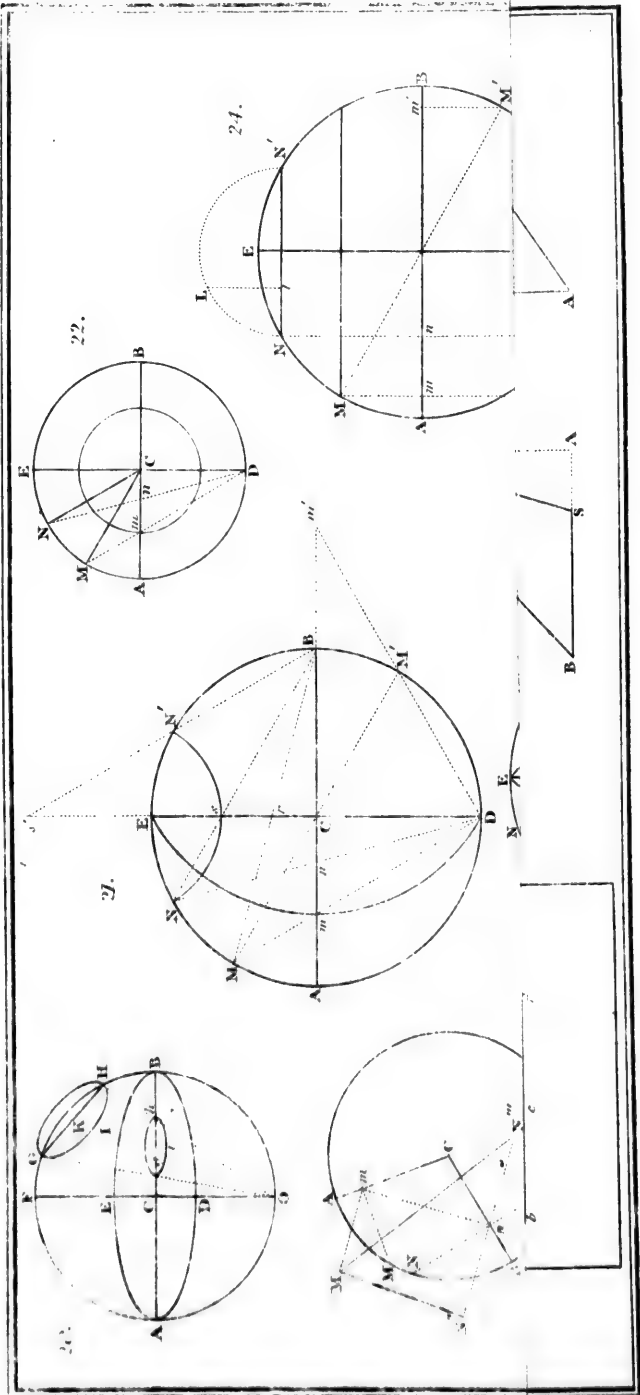
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# INTRODUCTION

to

## MATHEMATICAL AND CRITICAL GEOGRAPHY.

TRANSLATED FROM THE FRENCH OF

S. F. LACROIX.

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**G**EOGRAPHY is divided into two distinct branches; one of these may be called *narrative geography*, the knowledge of which is most generally diffused. Like the relations of travellers, it makes us acquainted with the various countries of the earth, their most remarkable physical and topographical circumstances, their form of government, their political division, their commerce, the manners of their inhabitants, and lastly the principal events of their history.

These descriptions, by the aid of language alone, must be necessarily somewhat imperfect and vague, on which account it has been found requisite to add outlines or maps of the countries, not only with a view of rendering the relative positions of the different places apparent to the eye, but also to give that degree of precision which is so often required in navigation, in the military art, in the planning of roads and canals, and many other important objects of civilized society. It is the art of projecting these maps which forms the second branch, not less useful than the preceding one, but less generally understood; and although the principles on which their construction depends, are derived from astronomy and geometry, it is often but imperfectly comprehended, even by those already conversant with these sciences.

For as it often occurs that there are not sufficient data to admit of the application of mathematical principles to fill up the details of a map; we are obliged to have recourse for this purpose, to the relation of the traveller and the narrative of the historian.

It is not surprising then, that an art which rather seems to depend on the intelligence and skill of the individual than on any general rules, should have been deemed incapable of analysis; and it has therefore been neglected in general plans of instruction.

It is, however, not impossible to obtain possession of the clue which has guided the geographers of the last and the present century in their researches, and thus to complete our geographical treatises, by sub-joining to them the elements of the mathematical and critical part of this science, the principal object of which is the construction of charts. And this will be found of great importance; for how can we make use of these designs with any certainty, or appreciate their correctness, when we are totally ignorant of the means by which they have been composed?

These motives have induced me to present to the reader a short essay on this subject, and to depart from the usual plan of introductions pre-

fixed to geographical treatises, which are only the elements of astronomy more or less abridged. I shall begin like the authors of these introductions by a short exposition of the first principles of astronomy, but I shall confine myself to those which are absolutely necessary to give a clear conception how the position of different places on the surface of the earth may be determined by observations of the celestial bodies.

### SECT. I. *Astronomical Elements necessary for the Study of Geography.*

1. IT must have been remarked by every one who has been placed in a situation commanding an uninterrupted view, that the heavens and earth appear to terminate in a circle of contact, and this circle has been called the horizon.

It is scarcely possible to observe the form of the terrestrial surface inclosed within the circle, because it is almost always broken by irregularities which alter its original figure; but if we stand on the sea shore, we must observe immediately, that however uniform this surface may appear, it is not perfectly flat; for when a vessel approaches the shore, it is the upper part of her masts that is first perceptible; and the best telescopes would afford us no assistance in rendering the lower part visible. As it advances towards the shore we behold it disengage itself from the horizon, and apparently rise out of the sea. It must then be the convexity of the sea that intercepts the lower part of the vessel from our view; this is represented in fig. 1.

The moment we remark that the surface of the sea is convex, we may easily conceive that the earth participates in the form, setting aside the consideration of its irregularities; and we are induced to consider the whole as spherical, because the geometrical laws of this curve are more simple than those of any other, and the form more pleasing to the imagination.

Other phenomena which we shall describe hereafter have strengthened this conjecture, which has been since verified by voyages round the world. And the last astronomical discoveries, by enabling us to measure the earth with great precision, have proved, that its form approaches so nearly to that of a sphere, that in most cases the difference may be neglected without any sensible error.

The mountains and vallies scattered over the surface of the earth; when compared to its mass, do not alter its figure more than the roughness perceptible on the rind of the finest orange. This assertion will be demonstrated hereafter by calculation.

2. The spherical form of the earth soon conducts us to the explanation of the most apparent motions of the celestial bodies.

The sun at the moment of his rising emerges partially from the horizon; he then seems to describe a portion of a circle in the heavens, and sinks below the opposite part of the horizon when he sets; he then reappears the next day, at nearly the same point where he rose on the preceding one; we may therefore easily conceive that he only disappears because he passes below the horizon, to complete his course round the earth.

If, during the course of a fine night, we observe with attention the motions of the stars, we perceive that some first appear in that part of the heavens where the sun rises, and disappear in the part where he sets; and in our climate during a long winter's night, we may distinguish some which describe more than a semicircle, round another which is

remarkable from its apparent immobility; some might even be seen to complete the circle, if the light of the sun by effacing their lustre did not cause them to disappear.

As all the stars appear to revolve in the same direction round one point, we are immediately led to consider this point as the centre of a motion common to all the celestial bodies, and in which the sun himself partakes, since he revolves in the same direction as the stars. This was for a long time the opinion of astronomers; they supposed the sun and stars attached to a solid vault which carried them with it in its revolution round the earth, in the space of twenty-four hours. When it was discovered that all the celestial bodies were not at the same distance from the earth, and that many of them approached and receded successively at certain periods, it became requisite to reform the preceding conjecture, and at length they began to imagine that the general motion of the stars might be only an appearance produced by the real motion of the earth in a contrary direction, round a diameter or axis which if prolonged would pass through that star which appeared stationary.

In fact, when we are in a boat passing uniformly, and no abrupt motion reminds us that we are changing our situation, it is the objects on the bank that appear to move in a contrary direction. We may, therefore, easily attribute the motion which we observe in the sun and stars to the earth, and this explanation, which its simplicity alone renders extremely probable, is confirmed by the exact analysis of the phenomena, and by the coincidence of the results we obtain from it with observation.

3. The point round which the heavenly bodies appear to move, is called the *celestial pole*; the star which indicates it, and which is very near it, is the *polar star*; the axis of the earth being directed to this point, marks on the surface of our globe two opposite points, which are the *terrestrial poles*; that which corresponds to the polar star is called the *north or arctic pole*, and the opposite one the *south or antarctic pole*.

That point of the horizon which is below the north pole is called the *north*, the opposite side is the *south*.

If we suppose a circle to pass through these two points the plane of which shall be perpendicular to the horizon, it will necessarily pass through the two poles; this circle is called by astronomers the *meridian*; it divides the celestial hemisphere above the horizon into two equal parts, so that the stars which are observed on this circle are in the middle of their apparent course, and it is the transit of the sun over this circle that marks the moment of noon.

The line which joins the north and south points of the horizon is called the *meridian line*; if we draw a line perpendicular to it, and suppose it prolonged on both sides till it meets the horizon, it marks on this circle two opposite points, which are called the *east* and *west*, or the points of *rising* and *setting*.

These latter denominations are intended to signify that one of these points is on the side where the heavenly bodies appear to begin their daily course or *rise*, and that the other is on the side where they seem to pass below the same circle, or to *set*, and that their apparent diurnal motion is directed from east to west.

It is proper to remark that when we look towards the south, the west is on our right and the east on our left; and if we mark on a horizontal plane two points in the direction of the polar star, they will

determine a line which will differ but little from the meridian line. I shall give hereafter the means of tracing it correctly.

4. To comprehend with precision the remarks contained in the preceding sections, it is necessary to have recourse to a figure.

The circle *MENO*, fig. 2. represents the horizon, in the centre of which, the observer *A* is placed; *BCD*, *B'C'D'* are portions of the circle which the heavenly bodies seem to describe round the celestial pole. Those whose distance from the pole is less than the arc *PN*, which marks the elevation of this point above the horizon, appear to describe entire circles, such as *GHIK*; *N* is the north point of the horizon, *M* the south; and consequently *MN* is the meridian line. The semicircle *MZN*, the plane of which is supposed to be perpendicular to the horizon *MENO*, and which passes through the points *MN* is the celestial meridian, which divides the arcs *BCD*, *B'C'D'* into two equal parts, at the points *C C'*.

The point *E* is the east point of the horizon, and the point *O* the west; the heavenly bodies seem to move from *E* towards *O*, and to pass in the middle of their course through some point of the circle *MZN*.

5. These appearances are now to be explained, and to comprehend the subject properly the reader should imagine himself removed from the earth, and consider it only as a globe placed in the midst of space supposed to be indefinitely extended in every direction.

Figure 3. represents the terrestrial globe insulated; the point *A* is the supposed place of the observer, *EMON* his horizon, and the straight line *PP'* designates the axis round which the earth performs its motion of rotation from west to east.

It is evident that the horizon of the observer turning with him during the rotation of the globe advances successively towards the stars situated in the direction of its motion, which consequently seem to be moving in an opposite direction to approach him.

The plane *MZN* of the meridian line *NM* perpendicular to the horizontal plane *ENOM* turns also with this latter, and directs itself successively towards the same stars which are then in the middle of the course which they seem to describe above the horizon.

When the western edge of the horizon touches a star it appears to set, and ceases to be visible till the motion of the earth brings the eastern edge of the horizon to it; because during this interval the visual rays which touch the earth pass above the star.

This explanation then applies to the phenomena which take place, in the most correct and simple manner, and accounts perfectly for the daily appearance and disappearance of the celestial bodies, by which circumstance the sun produces the alteration of day and night.

6. A remark very important to be made is, that all the motions alluded to in the preceding sections are only measured by their angles, without any consideration of their absolute distances.

In fact when a star, *F*, after having appeared in the direction of the visual ray *AF* in the plane of the horizon, is observed in the direction of the ray *AF'*, in the plane of the meridian, the spectator has only observed the angular space contained between the two straight lines *AF* and *AF'*, and which appears to include an arc of a circle in the heavens, whose radius it is impossible to estimate.

It follows from this remark, that we may, when we are considering the stars, substitute instead of the tangent plane *ENOM* a parallel plane passing through the centre of the earth; for when a star placed

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at  $G$  would appear in that horizon which is a tangent to the point  $A$ , an observer placed at the centre of the earth, seeing the same star on the line  $CG$ , would behold it elevated only by the angle  $CGn$ , which is so much the smaller as the point  $G$  is farther removed, as we see by the point  $G$ . Now the distance of the celestial bodies is so great that this angle is insensible with regard to most of them, and very small for the others.

After what has been said, we may be allowed to substitute fig. 4. instead of the preceding; but let the plane  $ENOM$  passing through the centre of the earth parallel to the plane which reaches it at  $A$ , or which is the same thing, perpendicular to the radius  $CA$  drawn from this point to the centre of the earth, be taken for the horizontal plane, relatively to the stars. Suppose the plane  $MZN$  of the meridian to be prolonged indefinitely round  $C$ , the centre of the earth, through which it must pass, since it is drawn through the axis  $PP'$ . It marks then on the terrestrial surface a circle  $PAP'$  passing through the poles, which is called the meridian of the point  $A$ , and of all the points situated on its circumference. The horizon  $ENOM$  is called the *rational horizon*, to distinguish it from that which is a tangent to the surface of the earth, and is called the *sensible horizon*.

The point  $Z$ , which is the point of the heavens perpendicularly over the head of the observer is called the *zenith*, and from the sphericity of the earth the line  $CZ$  prolonged downwards indicates another point  $Z'$  which is called the *nadir*, it is opposite to the first, and is the zenith of the place  $A'$ , which is diametrically opposite to  $A$ .

The position of the right line  $ZA'$  which is called the *vertical*, is indicated on the earth by the direction of the fall of heavy bodies, as that of the horizontal plane is by the surface of a stagnant fluid of small extent, to which the vertical or line marked by a plumb-line, is perpendicular.

As the action of gravity tends every where towards the interior of the earth, it acts at  $A'$  according to the direction  $Z'A'$  opposite to  $ZA$ ; bodies at this place fall therefore to the surface of the earth on which men are retained by their weight; those who are at  $A'$  having their feet opposite to those at  $A$ , are the *antipodes* of the latter.

7. The attentive observation of the celestial bodies soon caused them to be distinguished into two classes, one of which always preserve the same distance and arrangement among themselves, and only seem to be affected by the apparent motion which results from the rotation of the earth on its axis; the others have a motion of their own, relatively both to each other and to the first-mentioned class. These are called *fixed stars*, or simply *stars*; the others are subdivided into different classes, namely, *planets*, subject to motions the periods of which are known, and *comets*, the times of the appearance and disappearance of which vary. These are generally enveloped in a pale and diffused light, which sometimes surrounds them in the form of a crown, and sometimes follows them in a long train of light.

The observation of the fixed stars is one of the most simple means of knowing the relative position of places situated on the same meridian, and fully confirms what was advanced in the second section concerning the spherical form of the earth.

8. After the definition that has been given of the horizon, it may be easily comprehended that it should change its position relatively to the stars, when the observer changes his place. If he moves, for example, from  $A$  to  $A'$  fig. 5. going directly north or south, following the direc-



tion of the meridian, the horizontal visual ray which was  $NM$  will become  $N'M'$ , so that a star  $E$  placed on the prolongation of this ray, will be elevated above the horizontal ray  $N'M$  to  $A'$  by the angle  $ECM'$ , equal to that formed by the radii  $CA$  and  $C'A'$  drawn to the centre of the earth.

In fact the angles  $ACM$  and  $A'CM$  being right angles (section 6.), if we subtract the common angle  $MCA'$ , the remainder  $MCM'$  and  $A'CA$  will be equal.

It was by this means that Ptolemy having remarked that a very brilliant star, known by the name of *Canopus*, appeared in the horizon at Rhodes, and was elevated above it by a 48th part of the circle, or  $7\frac{1}{2}$  at Alexandria in Egypt, concluded that Rhodes was separated from Alexandria by a 48th part of the circle, in the direction of the meridian.

The Greek philosopher also made this important deduction from the same observation; that the distance from Alexandria to Rhodes being known in linear measure, and the proportion that the arc of the meridian included between these two cities bore to the whole circumference, the length of the circumference of the earth expressed also in linear measure might be known. From the length of the voyage, and the space that a vessel could pass over in a day, the distance between Alexandria and Rhodes was estimated at 3,750 stadia, this distance repeated 48 times produced 180,000 stadia for the circumference of the earth.

The accuracy of this result cannot be ascertained, because the value of the stadium in which it is expressed is unknown, and besides it is founded on rather vague estimations; but the principle is the same on which the most exact determinations of the present day are founded.

It is always required to find what is the proportion between the arc  $AA'$  of the meridian passing through the two points of observation, and the whole circumference; the linear distance between the two places is afterwards measured.

9. By this observation we are enabled to compare a place  $A$  with another place  $A'$ , but to determine absolutely the position of these points, it is necessary to assume a fixed term of comparison.

For this purpose we suppose a plane to pass through the centre of the earth perpendicular to its axis of rotation, which marks on its circumference a circle  $GEF$ , fig. 6, of which all the points are at an equal distance from the poles  $P$  and  $P'$ , and which is called the equator. To a spectator placed on this circle the two poles are in the horizon, but as he recedes from it to approach one of the poles, this one becomes elevated while the other is depressed. Thus at  $A$  fig. 5. the pole  $P$  appears elevated above the horizon, by the angular quantity  $PCN$ , and at  $A'$  the angle is augmented by  $NCN'$  and becomes  $PCN'$ .

The opposite pole  $P'$  is depressed on the contrary below the horizon by the angle  $MCM'$  equal to  $NCN'$ , the angles being vertical.

The angle which measures the elevation of the pole above the horizon is equal to that which measures the angular distance of a place from the equator, estimated in the direction of the meridian.

To ascertain this, it is sufficient to observe that the angles  $ACN$  and  $GCP$ , fig. 6, being right angles, if we subtract the common angle  $ACP$ , the remainders  $ACG$  and  $NCP$  will be equal. It may be seen also by the same figure that  $MCG$ , the height at which the equator appears above the horizon, is the complement of the angle  $ACG$ .

As soon then as the height of the pole above the horizon can be determined for any place, the angular distance of this place from the equator



equator is known, or the number of parts of the meridian intercepted between this place and the horizon.

10. The circumpolar stars, which never set in those places where one of the poles is elevated above the horizon, determine this immediately.

For, since they appear to describe circles round the celestial pole, they are equally distant from it in every direction, and as they pass twice over the meridian during the diurnal revolution of the earth, namely, once above the pole and once below it, if we measure their angular elevation in each of these positions, and take the mean of these two results, we shall obtain the elevation of the pole.

This is shewn in fig. 7; when the star passes the meridian above the pole, its angular elevation above the horizon is  $EON$ ; when it is at  $E'$  below the pole its angular elevation is  $E'ON$ . The angles  $EOP$  and  $E'OP$  being equal, the angle  $PON$  is the mean between  $EON$  and  $E'ON$ , and is equal, consequently, to half their sum. Moreover, if we take half the difference  $EOE'$  of the angles  $EON$  and  $E'ON$  measured between the star and the horizon, we shall obtain the angle  $EOP$ , which will give the angular distance between the observed star and the celestial pole.

Thus by measuring, for example, at Paris, during a long winter's night, the two meridian heights of the polar star, we find \*,

|                               |   |   |         |          |
|-------------------------------|---|---|---------|----------|
| When it passes above the pole | - | - | 50° 37' | } nearly |
| When it passes below the pole | - | - | 47 5    |          |

|                 |   |   |       |
|-----------------|---|---|-------|
| Their sum being | - | - | 97 42 |
| The half        | - | - | 48 51 |

will be the height of the pole above the horizon of Paris, or the distance of this city from the equator.

If, on the contrary, we subtract  $47^{\circ} 5'$  from  $50^{\circ} 37'$  we shall find for their difference  $3^{\circ} 32'$  of which the half  $1^{\circ} 46'$  will give the distance of the polar star from the pole, which, we find, does not exactly occupy this point, but is only very near to it.

11. The knowledge of the distance of a place on the earth from the equator, is not sufficient to determine the position of the place, because the same distance will agree with all the points situated on the intersection of the sphere and a plane parallel to the equator, which intersection gives a circle parallel to the equator, but of which the radius is smaller, and which for this reason is called a *lesser circle*. All the points of this circle can only be distinguished by their meridians, which are different for each of them, and the observation of the celestial motions affords the means of ascertaining them.

The planes of the different meridians  $PAP'$ ,  $PLP'$ ,  $PMP'$ , &c. fig. 8, all intersect each other in the axis  $PP'$ , and turning upon this line correspond successively to the same star, and between the passage of the same star over any two meridians, a period of time elapses which is to the whole time of rotation as the angle made by these meridians

\* \* Convinced that the description of astronomical instruments is utterly incapable of conveying any idea to persons who have never seen them, I have thought it advisable not to introduce any in this introduction. Besides the form of these instruments, the object of which is the measurement of angles, is so variable that it would require a very prolix detail to point out the manner of employing all the different kinds now in use. Moreover, it is known by the elements of geometry, that angles are measured on the arcs of circles, and that two rules moveable round a joint are sufficient to ascertain the direction of the lines which compose them.

is to two right angles; so that if the first interval can be measured to compare it with the second, we may deduce the angle which the two meridians in question make with each other.

This could be done if we could indicate by a signal visible at the same time to the places under the two meridians the moment when a star appears on one of the meridians; because this instant being marked, a well regulated watch would give the time which elapses between this transit and that of the same star over the other meridian.

If, for example, two observers, one at Paris, the other at Dreux, having agreed to determine on the same day the transit of the same star over the meridian of the city they inhabit, and that a signal given at the moment when the star passes the meridian of Paris, could be visible at Dreux, about four minutes would elapse before the star would pass the meridian of Dreux; this interval being nearly the 360th part of the diurnal revolution of the earth, it follows that the plane of the meridian which passes over Dreux, makes with that of the meridian which passes over Paris, an angle which is the 360th part of four right angles, or the measure of which is a degree.

12. Knowing by this means the angle which the meridian  $PLP'$  passing through the place  $L$ , makes with the meridian  $PAP'$  passing through a given place  $A'$ , the place  $L$  will be perfectly determined, if we have, besides, its distance from the equator,  $EFG$ , since it is in the intersection of the parallel  $LM$ , drawn at this distance, with the semicircle  $PLP'$ .

The distance  $GL$  of a place from the equator reckoned on the meridian is called its *latitude*; it is northern when the place is between the pole of this denomination and the equator; and is southern when in the opposite hemisphere.

The angle of the meridians  $PAP'$  and  $PLP'$ , measured by the area  $EG$  or  $HL$  included on the equator, as on the parallel, is the *difference in longitude* of the places  $A$  and  $L$ , and is called the *longitude* of the place  $L$ , when the same circle  $PAP'$  is the principal meridian, which is made to pass through a place assumed arbitrarily.

The preceding method pointed out for its determination is only practicable in general by taking a celestial phenomenon for the signal; because, for a signal to be perceptible in two places at the same time it should be so much the more elevated, in proportion as the places are farther asunder. As the phenomena employed for this purpose result from the motions peculiar to the planets, I shall give some account of these motions.

13. Besides the diurnal motion which the sun has in common with the stars during the course of the year, he seems to advance alternately towards one or other of the poles; moreover, if we compare him with the stars, by observing one which sets a little time after him, we find that the interval between these two phenomena diminishes every evening, and we soon cease to perceive the star, being effaced by the light of the sun, which consequently is advanced towards the east; a few days afterwards the same star reappears in the east a short time before sun rise; the interval between his rising and that of the star augments every day, and after a period of about 365 days the star and the sun are found to be in the same relative position in which they were originally observed. The sun then appears to be influenced by two motions, one whose direction is from south to north, then from north to south, and the other from the west towards the east.

These appearances may be explained with great simplicity, by attributing to the sun one motion alone, which is repeated every year or annually, and which is performed in a plane inclined to the axis of the earth, since he approaches both the poles alternately. But the circumstances of the motion of the other planets do not yield readily to any plausible explanation, when we consider these bodies as moving round the earth; whereas by supposing them to move round the sun, and by attributing also to the earth the apparent annual motion of this body, the combination of these two absolute motions, gives to each of the planets, as seen from the earth, a relative motion, which agrees perfectly with all the phenomena they present, and is capable of explaining them with the greatest precision.

It was by this means that Copernicus restored to the system of the world the simplicity and correctness which it had entirely lost by the multiplied efforts which the partizans of the theory which supposed the earth immovable, had made after Ptolemy, to explain how the planets should appear sometimes stationary, and at others change their direction.

Copernicus supposed then, that at the same time that the earth turned on its axis from west to east in the interval of a day, (section 5.) it was carried in space from east to west, making an entire revolution round the sun in a plane inclined to the equator, during the interval of a year.

We have every day before our eyes a multitude of examples of these two simultaneous motions in the same body.

The top with which children amuse themselves is one of the most familiar; while it turns rapidly upon the iron peg that passes through it, and which forms its axis, it also describes on the ground various curves, which depend on the manner in which it was originally projected: a bowl that has been struck in a direction not passing through its centre, acquires a rotatory motion on itself, besides the progressive motion which results from the impulsion it received.—These elucidations ought to suffice to render intelligible what follows concerning the two motions of the earth.

14. To conceive how the phenomena of the sun's apparent change of place are produced by the annual motion of the earth, it is only requisite to observe the consequences produced by the parallelism which its axis preserves in all the positions it successively occupies.

This axis, which is inclined to the plane in which the centre of the earth moves round the sun, remaining always parallel to itself, presents alternately each of its extremities, or poles, towards the sun. This may be seen by fig. 9. where the lines  $PP'$  parallel to each other represent the axis of the earth, and  $S$  the centre of the sun. This parallelism causes the pole  $P$ , which is nearest to the sun when the earth is at  $B$ , to become the most distant from it when the earth is at  $D$ ; because, in the first situation, the inclination of the part  $BP$  of the terrestrial axis is turned within the curve  $ABCD$ , while at the point  $D$  it is on the outside of it; there are two intermediate points,  $A$  and  $C$ , in which the axis  $PP'$  does not incline either towards the sun or from it; and the line  $CSA$ , which joins the centres of the sun and earth in these two opposite positions, is perpendicular to its axis  $PP'$ .

In all the other points of its orbit  $ABCD$ , the terrestrial axis must necessarily incline either towards or from the sun; and as it is these two positions which produce the seasons, I shall consider them separately.

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15. Figure 10 relates to the case in which the pole  $P$  is nearest to the sun.

The distance from the sun to the earth being very considerable, in proportion to the diameter of the latter, his rays may be considered as parallel to the line  $SO$ , which joins the centres of these two bodies; we perceive immediately that the terrestrial surface is divided at every instant into two parts; that which is towards the sun being enlightened, while the opposite side is in obscurity. The boundary which separates these two parts is determined by the great circle  $ILK'$  drawn perpendicular to the line  $SO$ ; for it is evident that this circle surrounds that part of the earth which is turned towards the sun, and that the rays of light, such as  $SI$ ,  $SK$ , which touch its circumference, are only tangent to the surface of the globe; this circle is called the *circle of illumination*.

It follows then that the equator  $ELF$ , being a great circle, is divided equally by the circle of illumination; every point in the equator passes successively through that half of its circumference which is included in the enlightened part of the earth, and consequently receives the rays of the sun during half the time of the rotation of the earth. This is the cause that to all the places situated on this circle (the equator) the days and nights are equal, on which account it is sometimes called the equinoctial line. The circle of illumination divides the lesser circles described by the points of the arc  $PE$  more unequally in proportion as they approach the pole; the enlightened part of these circles is the largest: to all these places therefore the duration of the day surpasses that of the night; and this difference increases as the places are situated nearer the pole, till there is no night to the space inclosed within the circle  $IK$  described by the point  $I$ , through which the solar ray passes as a tangent to the earth, and the nearest to the pole  $P$ , because this circle lies entirely in the illuminated hemisphere.

This order is totally reversed with regard to the other hemisphere  $EPF$ . Beyond the equator  $ELF$ , as we approach the pole  $P'$ , the circles parallel to the equator, which are unequally divided by the circle of illumination  $ILK'$ , have their greatest portion in obscurity; the duration of the nights therefore surpasses that of the days more and more as we approach the poles, and the region contained in the circle  $P'K'$ , described by the point  $K'$ , being altogether in the unenlightened hemisphere, has no day.

The radius  $SO$  being directed towards the centre of the earth, falls perpendicularly on its surface, and the point  $PH$  turning round the axis  $PP'$ , describes a circle  $HG$ , all the points of which pass in succession perpendicularly under the sun; on each side of this circle, the solar rays become more and more oblique, and are horizontal on the circles  $IK$  and  $P'K'$ , where they are only tangents to the surface of the earth.

It follows from thence, that the sun attains a greater altitude above the horizon, in proportion as the horizon is nearer to  $GH$ .

16. In figure 11, where the part  $OP$  of the terrestrial axis is inclined in the opposite direction relative to the sun, what we have said concerning the hemisphere  $EPF$  must be applied to the hemisphere  $EP'F$ , and *vice versa*. It is in the latter that the days are longer than the nights, and the sun is vertical over the points of the circle  $G'H'$ ; the contrary takes place in the hemisphere  $EPF$ .

17. When the earth is at  $A$  or  $C$ , fig. 9, the solar ray  $SC$  or  $SA$ , directed towards the centre of the earth, being perpendicular to the

axis

axis  $PP'$  (sect. 14.), this axis is in the plane of the circle of illumination, which then bisects not only the equator, but all the circles parallel to it, so that the enlightened portion is equal to that in shadow. In this position the duration of day and night is equal at every part of the terrestrial surface. The points  $A$  and  $C$ , and the periods at which the centre of the earth is in these points, are therefore called equinoxes.

The time employed by the earth in passing from the point  $A$  to  $B$ , during which the pole  $P$  approaches nearer and nearer to the sun, is the astronomical spring to the hemisphere  $EPF$ , because the plane of the equator becoming more and more depressed with regard to the sun, this body appears elevated towards the pole: when arrived at  $B$ , the semi-axis  $BP$  of the earth having the greatest possible inclination towards the sun, he appears at the least distance from the pole  $P$ , and it is at this point that the summer of the hemisphere  $EPF$  commences.

As the situation of the axis changes very little for some days to the places near the point  $B$ , it has been called the summer *solstice*. This season lasts till the earth arrives at the second equinox  $C$ , when the autumn commences: then the pole  $P$ , being the farthest from the sun, this body, becoming more and more depressed, returns into the plane of the equator. After his passage through the point  $C$ , the semi-axis  $CP$  turning its inclination more and more to the side opposite to the sun, he continues to appear more and more depressed below the horizon till the earth reaches  $D$ , the place where the inclination of the semi-axis  $DP$  is directly opposite to the sun, which has consequently attained the limit of its depression below the equator. At this point the winter commences to the hemisphere  $EPF$ , and the axis remaining also many days in nearly the same situation, the point  $D$  has been called the winter *solstice*.

The duration of this season is defined by the time employed by the earth to return to the point  $A$ . During this interval the pole  $P$  approaches the sun, which consequently appears to re-ascend towards the equator, which it reaches when the earth is at  $A$ , when it has finished its annual revolution.

With regard to the opposite hemisphere  $EP'F$ , the seasons follow a contrary order; the spring of this hemisphere corresponding to the autumn of the other; the summer to the winter; the autumn to the spring; and the winter to the summer.

18. In the early state of astronomy, the apparent motion of the sun was referred to the groupes of fixed stars or constellations which he seemed to traverse successively, the number of which is twelve. The space the sun traverses in a season includes three of them; their names and the characters employed sometimes to represent them, beginning at that where the spring equinox takes place, are,

|               |            |               |
|---------------|------------|---------------|
| ♈ Aries       | ♉ Taurus   | ♊ Gemini      |
| ♋ Cancer      | ♌ Leo      | ♍ Virgo       |
| ♎ Libra       | ♏ Scorpio  | ♐ Sagittarius |
| ♑ Capricornus | ♒ Aquarius | ♓ Pisces.     |

They are also called the signs of the *zodiac*, because they occupy that band or zone on which the planets anciently known, which deviate but little from the ecliptic, were always found; but the planets recently discovered by Messieurs Piazzi and Holbers have orbits exceeding very much the limits assigned to the zodiac, particularly the one last discovered.

By



By the effect of a particular but very slow motion of the axis of the earth, the constellations no longer correspond to the same points of the terrestrial orbit; and as, besides, they differ from each other in their extent, the name of signs has been given to the twelve divisions of the circle which measure the entire revolution of the earth; each of these divisions comprehends 30 degrees; and at present the signs of the zodiac are distinguished from the constellations, this latter denomination being particularly applied to the groupes of stars.

By this arrangement the spring equinox corresponds always to the first point of the sign aries; the summer solstice to the first point of cancer; the autumnal equinox to the first point of libra; and the winter solstice to the first point of capricorn.

19. In appearing to approach alternately to both poles, the sun passes successively over the zenith of all the points included within the two circles *GH* and *G'H'*, fig. 10 and 11, parallel to the equator, and over which it is vertical at the summer and winter solstices.

These limits at which the sun seems to stop in each hemisphere are called *tropics*; that which corresponds to the summer solstice is the *tropic of Cancer*, and the other the *tropic of Capricorn*.

The circles *IK* and *PK*, which terminate towards each pole that part of the earth which the sun enlightens when he is in the opposite hemisphere, are called *polar circles*, and are distinguished by the name of the pole to which they belong: the one is the *arctic polar circle*, and the other the *antarctic polar circle*.

The polar circles and the tropics divide the surface of the earth into five portions, called *zones*; those which are included in the polar circles, being deprived of the sun during a great part of the year, and always receiving his rays very obliquely, are called *frigid zones*.

The zones included in each hemisphere between the polar circles and the tropics never have the sun vertical, but receive his rays less obliquely than the frigid zones, and are called *temperate zones*.

Lastly, the space between the tropics, over every point of which the sun is vertical twice a year, and to which the rays are always less oblique than to any other part of the globe, suffering on this account a considerable degree of heat, is called the *torrid zone*.

The constant presence of the sun over this zone, and the force of his rays, which fall almost perpendicularly upon it, ought at length to communicate to the earth a heat sufficiently powerful to extend to the interior, even as far as the poles, and to produce that uniform temperature which is preserved in caves and deep mines, notwithstanding the alterations of heat and cold which take place on the surface of the globe, whether by the greater or less degree of obliquity in the rays of the sun at the different seasons of the year, or by the effect of meteorological phenomena.

20. The ancient geographers established a division of the earth into *climates*, founded on the comparative duration of the day and night at the summer solstice. The first climate commenced at the equator, where the days, equal to the nights, are each 12 hours, and terminated at that parallel of latitude on which the longest day is 12 hours 30 minutes; the second climate terminates at the parallel, on which the longest day is 13 hours, and so in succession for every half hour of increase in the duration of the solstitial day, as far as the polar circle, where the day contains 24 hours. After this boundary the difference of climate was reckoned by months, because each pole passes the whole interval

interval between the equinoxes, or six months in the sun's light, and six months in darkness; and the intermediate points are enlightened for a longer or shorter time, according to the distance they are from the pole. The first climate, reckoned by months, terminates at the parallel of latitude placed at the polar circle, all the points of which are exposed to the sun for a month, and thus on to the pole, where day lasts six months of the year, and night the other six months.

21. The different distribution of the seasons in the northern and southern hemispheres, was the cause of the inhabitants of the earth being ranked under denominations which are no longer in use, but which ought to be known, because they are met with sometimes in rather ancient authors.

The people who are situated, one to the south and the other to the north of the equator, but under the same meridian and the same latitude in each hemisphere, are *Antecians*; they reckon the same hours at the same moment, but are in opposite seasons.

Those who are on the same side of the equator, but under opposite meridians, are *Perieicians*; they reckon opposite hours at the same instant, it being midnight with one when the others are at noon, and *vice versa*, but being both in the same hemisphere they have the same seasons.

The ancient geographers have also established a division of the inhabitants of the earth from the situation of their shadows. They called *Heterosicians*, those who are placed in the temperate zone, because their shadow is always turned towards the pole.

*Perisicians*, those who, inhabiting the frigid zones, and enjoying the presence of the sun during one period of the year for 24 hours, behold this body revolve round their horizon, and project their shadow in every direction.

*Amphisicians* or *Asicians*, the inhabitants of the torrid zone, whose shadows at noon are alternately projected towards either pole.

By thus turning their attention to consider local phenomena, they establish three situations of the *sphere*, that is to say of that assemblage of various circles of which I have spoken, and to which we refer the positions of the stars.

They said that to the inhabitants of the equator the position of these circles was that of a *right sphere*, because the plane of the circle then passing through the zenith is perpendicular to the horizon, and that consequently the stars, which in their diurnal motion seemed to describe circles parallel to the equator, appear to rise and descend perpendicularly to the horizon.

To the inhabitants from the equator to the poles, as the circle cuts the horizon obliquely, the sphere is *oblique*, because the diurnal motion of the stars is inclined to the horizon. Finally, at both poles the horizon is the equator itself; and the stars seem to move parallel to this circle, the inhabitants, therefore, of these two points, have the *sphere parallel*.

22. The extent of the zones and climates is determined by the inclination of the axis of the earth to the plane of the ecliptic; and this inclination is discovered by observing at the same place, the greatest and least altitudes of the sun, when it passes the meridian at the summer and winter solstice.

For since it deviates equally on each side the equator, at both these periods the points of the equator ought to pass the meridian at the mean altitude between the two extreme altitudes of the sun, and their difference



difference is double the angular distance by which the sun is elevated and depressed above and below the equator; we determine, therefore, at the same time this quantity and the position of the equator to the horizon, which gives the latitude of the place of observation.

At Paris, for example, the altitude of the sun above the horizon is  $64^{\circ} 38'$  at the summer solstice, and only  $17^{\circ} 42'$  at the winter solstice.

|                               |                  |
|-------------------------------|------------------|
|                               | $64^{\circ} 38'$ |
|                               | $17 \quad 42$    |
|                               | <hr/>            |
| The sum of these altitudes is | $82 \quad 20$    |
| The half                      | $41 \quad 10$    |

gives the altitude of the equator above the horizon at Paris, and taking the complement to  $90^{\circ}$  we find that the distance from the equator to the zenith or the latitude of Paris is  $48^{\circ} 50'$ . Subtracting one from the other.

|                        |                  |
|------------------------|------------------|
| The altitudes          | $64^{\circ} 38'$ |
|                        | $17 \quad 42$    |
|                        | <hr/>            |
| We find the difference | $46 \quad 56$    |
| And the half           | $23 \quad 28$    |

gives the arc by which the sun deviates from the equator towards either pole.

This arc, which measures the angle  $FOH$ , fig. 10, measures also that which the plane of the equator and ecliptic make with each other, or the *obliquity* of the ecliptic with regard to the equator.

The complement of the angle  $FOH$  is the angle  $POH$  which measures the inclination of the terrestrial axis  $OP$  on the plane of the ecliptic represented by the line  $OS$ , and taking  $23^{\circ} 28'$  from  $90^{\circ}$  we get  $66^{\circ} 32'$ .

It is to be remarked also that the arc  $IP$  which measures the distance of the polar circle  $IK$  from the pole  $P$ , being the complement of the arc  $PH$ , and consequently equal to  $FH'$  is  $23^{\circ} 28'$ ; the complement  $66^{\circ} 32'$  of this arc expresses the value of the arc  $IE$ , or of the latitude of all the points of the polar circle.

The latitude of the tropics  $GH$  and  $G'H'$  is equal to the arc  $EG$ , and consequently is  $23^{\circ} 28'$ .

23. We may deduce from these results the extent of the different zones. The frigid zones include  $23^{\circ} 28'$  of latitude on each side the pole. The temperate zones, or the space between the polar circle and the tropic, or between  $66^{\circ} 32'$  and  $23^{\circ} 28'$  of latitude extend  $43^{\circ} 4'$ ; finally the torrid zone terminated by the tropics at  $23^{\circ} 28'$  distance on each side the equator, includes  $46^{\circ} 56'$  of latitude. From these data, by the assistance of elementary geometry, the superficies of these zones may easily be calculated, and it is found that 83, 519, 796, represent respectively the frigid zone, the temperate zone, and the torrid zone, or taking the whole area of the globe as unity,

|                         |                    |
|-------------------------|--------------------|
| The frigid zones occupy | $\frac{83}{8000}$  |
| The temperate zones     | $\frac{519}{8000}$ |
| The torrid zone         | $\frac{796}{8000}$ |

These dimensions are not constant, for observation and the calculation of the causes which produce the planetary motions, have proved that the inclination of the terrestrial equator relatively to the ecliptic diminishes

diminishes every century by  $50''$ , till it arrives at a term which is not yet exactly ascertained, after which it will begin to increase.

24. It is by the apparent motion of the sun that time has been regulated.

The duration of the *astronomical day* is marked by the period that elapses between two consecutive transits of the sun over the meridian of the same place : it is divided into 24 hours ; the *tropical year* is the period between the passage of the sun through one of the equinoctial points and its return to the same point ; it includes 365 days 5 hours,  $48' 48''$ .

As the position of the equinoxes on the plane of the ecliptic depends on the situation of the terrestrial axis, it changes relatively to the stars in consequence of a slight motion of this axis, so that the equinoctial points retrograde about  $50''$  a year, with reference to the stars which constantly appear to advance this quantity in the direction of the ecliptic, and this circumstance prolongs a little the annual revolution of the earth, when compared with the stars ; it is then called the *sidereal year*, and its duration is 365 days 6 hours,  $9' 12''$ .

The revolution of the earth is performed in a period rather less than 24 hours, because in this space of time the earth not only describes one revolution but as much more as is requisite to bring the same terrestrial meridian to the sun, and which angular space is equal to that which it describes in the same time in a contrary direction in its annual revolution round the sun ; so that the interval between two transits of a fixed star over the same meridian which measures the real duration of the terrestrial rotation, is only  $23^h 56' 4''$ . From this difference the stars appear to gain upon the sun every day about  $4'$  of time in their transit over the meridian.

The period of the rotation of the earth is always uniform, but it is not thus with the duration of the day, which is composed, as we have just said, of the time of its rotation, and of that which it employs to describe round its axis, an angle which compensates the quantity which it has turned round the sun by the effect of its annual motion ; for this other motion which is not performed in a circle but in an ellipse, of which the sun occupies one of the foci, is not uniform, and takes place in the plane of the ecliptic, which is inclined to that of the equator. From the concurrence of these causes the duration of the day, compared with that of the rotation of the earth, is sometimes less and sometimes greater than 24 hours ; and the series of these differences constitutes what is called the *equation of time*, which must, in some seasons be added and in others subtracted from the hour marked by a clock regulated by the sun or *true time*, to obtain *mean time*, to which astronomical tables refer, and by means of which we at present calculate with great precision the motions of the heavenly bodies, and particularly those of the sun and moon.

25. The last mentioned body is considered as a satellite of the earth, because revolving round it, it accompanies the earth in its revolution round the sun.

The revolution of the moon round the earth, when referred to the equinoctial points is accomplished in 27 days 7 hours  $43' 4''$  ; but when compared with the sun, which during this time appears to advance in the same direction, it employs 29 days 12 hours  $44' 3''$  to pass through the whole circumference of the heavens, with the space described by the sun added. This is the *synodical revolution* or the lunar month, which begins at the moment when the moon is directly between the sun and

and earth, which is called *in conjunction*: This aspect is represented in fig. 12, where *S* is the sun, *T* the earth, and *L* the moon.

During this revolution the moon assumes relative to the sun all possible situations, from which result her different appearances or phases; in fact, the moon being an opaque body like all the planets, can only be seen when she reflects to the earth the luminous rays received from the sun, and it is requisite for this that she should turn towards us at least a portion of that hemisphere which being directly opposite to the sun is enlightened by it.

The moon then only becomes visible to us when having passed the point *L'* she begins to turn towards the earth a portion or segment of her enlightened disk, which increases as she separates from the sun to pass to the other side, *L''*, the earth then being between the sun and moon sees the whole enlightened hemisphere of the lune, which in this state appears full or in *opposition* to the sun.

The conjunction and opposition of the moon with regard to the sun, or the new and full moon, are the *syzygies*. When the moon is distant from the sun by a quarter of her orbit, as at *L'* and *L''*, she is in *quadrature*; we then only perceive half her enlightened hemisphere. It is called her first or last quarter according as her convexity is turned to the west or east.

26. This explanation of the phases of the moon seems immediately subject to a difficulty which leads to the cause of eclipses.

We are tempted to believe that the moon ought always, when she is in conjunction with the sun, to conceal his disk totally, or at least partially; and when it is in opposition, to be immersed in the shadow which the earth carries behind it, and ceasing to be enlightened by the sun should become invisible. There would take place in the first case an *eclipse of the sun*, and in the second an *eclipse of the moon*.

These phenomena, in fact, often take place under the circumstances I have described, and indeed often in a year; but they do not happen at all the new and full moons, because the orbit described by the moon round the earth not being in the same plane with that of the earth round the sun, it happens most frequently that the conjunction of the moon is a little above or below the sun, and a little above or below the shadow of the earth at the opposition.

However as the orbit of the moon intersects the ecliptic in two points called *nodes*, its conjunction and opposition which may happen at the points of her orbit, sometimes take place near the nodes, and then there is an eclipse of the sun or moon.

To explain this circumstance better, I have joined to fig. 12, which represents the orbits of the earth and moon on a *geometrical plane*, fig. 13, which shews the *section* or *profile* following the line *ST*. This line *ST* represents the plane of the ecliptic, and *LL''* that of the lunar orbit. The inspection of this figure is sufficient without any explanation to shew when there will or will not be an eclipse. Besides the detail of these circumstances and of the calculation of eclipses belongs to astronomy, and I have only to speak of that science as far as regards the observation of these phenomena, for the purpose of ascertaining the longitude of a place on the earth.

27. It has been already seen (11) that this depends on the determination of the time reckoned at the same instant in two different places, by the observation of an instantaneous phenomenon that can be observed at both points.

The eclipses of the moon accomplish this perfectly; for a given point of the lunar disk is immerfed in the earth's shadow at the same instant to all the places where the moon is visible.

And the spots scattered over its disk afford the means of making many observations during the same eclipse, by marking carefully the time of the disappearance of each spot at its entrance into the shadow or *immersion*, and that of its coming out of the shadow or *emersion*. If the same observations have been made at a place the position of which is known, the difference between the time determined at each place by the same phenomenon gives the difference of longitude. If all the results do not exactly agree, the mean must be taken.

It is not always necessary to have observations corresponding to those made at the place, the longitude of which is to be determined. If the point is very distant and has not yet been determined with great precision, the calculations made in good almanacks, such as the *Connaissance des tems* of the French, or the *Nautical Almanack* of the English, are sufficiently exact to supply the place of those observations which we are deprived of.

It is thus that the eclipse of the moon on the 30th of July, 1787, observed by the astronomer Beauchamp, at *Casbine*, a place situated in the vicinity of the Caspian sea, enabled Mr. Lalande to determine the longitude of that place.

The end of the eclipse or the total emersion of the lunar disk took place at Casbine at

|                                     |                                   |
|-------------------------------------|-----------------------------------|
|                                     | 7 <sup>h</sup> 45' 30" solar time |
| And the calculation for Paris gives | 4 36 38                           |
| The difference                      | 3 8 52                            |

corresponds to the difference of the meridians of Paris and Casbine. If we convert it into degrees at the rate of 15 to an hour, which gives 15 minutes of a degree for a minute of time, and 15 seconds of a degree for a second of time, we find

|                    |       |
|--------------------|-------|
| For 3 <sup>h</sup> | 45°   |
| For 8'             | 2°    |
| For 52"            | 13'   |
| Total              | 47 13 |

This, then, reckoning from the meridian of Paris, is the longitude of Casbine, resulting from the above observation.

There may be some uncertainty in this result, not only because there was no corresponding observation at the place, the longitude of which was known, but also, because we cannot be certain within a few seconds of the phases of an eclipse of the moon, and that 4' of time give a minute of a degree. Notwithstanding this imperfection the observation of lunar eclipses ought not to be neglected whenever an occasion occurs, when we travel in a country of which the latitudes and longitudes are but little known, because the means of determining the longitude are few, and have all some degree of uncertainty.

From what has been said the reader should comprehend, that if among the planets which, like the earth, describe orbits round the sun, there should be any with satellites revolving round them, these bodies being in similar circumstances to those which produce eclipses of the moon, will be immerfed in the shadow of their planet; and if their disappearance

disappearance and reappearance could be observed in different places at the same time, they would enable us to determine longitudes in the same manner as the eclipses of the moon.

This is the important use to geography that is made of the eclipses of the four satellites that accompany Jupiter, a planet remarkable for its magnitude and the brilliance of the light which it reflects to us. There are also two other planets, Saturn and Herschel, which are accompanied by satellites, but their minuteness and distance rendering them scarcely perceptible but in the most powerful telescopes; the observation of their eclipses is hardly practicable.

The utility of the eclipses of Jupiter's satellites has induced astronomers not only to observe assiduously all those which are visible, but also to calculate tables to predict them, with such exactness, that, like the lunar eclipses, the corresponding observations are not requisite.

28. The solar eclipses are also employed in the determination of longitudes; but the calculation is not so simple as for eclipses of the moon; they can only be performed by those very conversant with astronomy; Mr. Lalande, by paying great attention to this subject, has, by means of them, rectified the positions of a great many important places.

The cause of the difficulty of this calculation is, that the relative situations of the sun and moon are not the same at all the points of the earth where these two bodies are seen at the same time.

What takes place on this occasion may be observed with the clouds, which, when seen from a particular point, appear under the sun, and cast their shadow over a limited space, out of which the whole disk of the sun may be seen. A spectator on the edge of the shadow perceives a part of the sun's disk, and the different appearances change every instant by the effect of the relative motions of the sun, the cloud, and the spectator.

To apply the observation of an eclipse of the sun to finding the longitude of places, it is requisite to have different phases determined as the beginning and end, and from thence deduce the middle; the data proper to ascertain the respective position of the lines traversed by the centres of the sun and moon during the eclipse must be taken from the astronomical tables, to enable us to calculate the instant when these two bodies were in conjunction. Knowing the hour when this happened at a given place, we deduce from the difference of these times the difference of longitude.

It often happens that the moon eclipses the fixed stars; and by determining from observation of the circumstances of this phenomenon, which is called the *occultation*, the moment when the centre of the moon is in conjunction with the star, which ascertains the absolute position of the moon, we may, either by calculations made for this purpose in the astronomical almanacks or by corresponding observations, find the time of this conjunction, at a place the position of which is known, and the difference of longitude is found as in the preceding cases.

29. The object of all these methods, in fact, in this, to determine at the place, the longitude of which is required, the position of a celestial body at a given instant, and to deduce from this position the time which is reckoned at the same instant at a place whose position is known. It may be perceived by this description of the problem, that the celestial body should have relatively to the earth a motion sufficiently rapid, that its position with regard to the fixed stars or other celestial bodies that serve as a term of comparison, may vary considerably in the space of 24 hours.



The moon is most proper for this purpose, because as it travels nearly 13 degrees a day, one minute of a degree in its change of place corresponds to rather less than two minutes of time, or 30 minutes of a degree of longitude; and as we may by taking the angular distance between the moon and the stars or sun, ascertain its situation with the greatest precision, the time reckoned under a given meridian at the moment of observation may by this means be determined within two minutes.

This operation has been so much facilitated by instruments of very accurate construction, by tables, and by various formula contrived for this purpose, that it can be performed almost daily at sea, which has considerably advanced our knowledge of geography, especially since by the example of Cook we have adopted the use of *time-keepers*, or chronometers, which serve in the intervals when the distances between the moon and sun or stars cannot be observed.

30. The use of time-keepers alone would be sufficient if they could be constructed with such perfection that being once set to the hour under a given meridian they would preserve the same motion during the whole voyage; because they would then always mark the time at that meridian, which being compared with the time at the place required, would give the difference of time, and consequently that of the meridians.

But if the exertions of Harrison, of Julian le Roi, of Berthant, and of all the celebrated artists who have endeavoured to bring to perfection this useful piece of mechanism, have failed in rendering the motion of chronometers thus perfectly uniform, they have at least approached so near it, that these chronometers do not vary perceptibly for a considerable interval of time, notwithstanding the agitation which the sea produces in the vessel.

31. By considering what has been said above we may form a very complete idea of the means of fixing the position of different points on the earth by their latitude and longitude, which geography derives from astronomy. We arrive at these results with the greater exactness in proportion to our precision in the observations, and in the calculations which arise from them. To avoid rendering too complicated the explanation of the principles on which the methods which I have summarily explained depend, I have avoided pointing out many corrections necessary to free the observations from the effects of some optical illusions which affect them, and from the combination of some slight motions, both real and apparent, which the progress of astronomy and the profound knowledge of the laws of the system of the world have enabled us to know and appreciate.

These are the most simple:

We know that a ray of light passing from one medium into another of greater density suffers a *refraction*, because it approaches to the perpendicular to the surface of the strata which it successively traverses. For this reason the heavenly bodies are never seen in their real places; the ray which renders them visible to us elevates them above the horizon, by a quantity so much the greater as they are nearer to this circle, and which also depends on the state of the atmosphere at the time of observation. This quantity should be known for each degree of altitude above the horizon, that it may be subtracted from the observed, which is always greater than the real altitude, except in case where the object is in the zenith; because then the ray of light, traversing the atmospheric strata perpendicularly, does not suffer any refraction. It has been remarked (8) that the observation of altitudes was always referred



to the centre of the earth, considering the rays of light as all coming to the earth in parallel directions, and consequently neglecting, from the considerable distance of the stars from the earth in proportion to its radius, the angle  $AGC$  (fig. 3.) ; but the planets are so sufficiently near to the earth for it to be requisite, particularly when great accuracy is required, that this angle should be taken into consideration. Its effect is to depress the object below its real situation with regard to the centre of the earth. A star at  $G$ , for example, would appear at the point  $A$ , in the horizon, while at the centre of the earth it would be elevated by the angle  $GCN$ , equal to  $AGC$ , because the lines  $MN$  and  $mn$  are parallel. The angle  $AGC$ , formed as we see by the direction of the lines in which the star would be seen from the centre of the earth, and from a point on its surface, is called *parallax*. It changes with the altitude of the star, and becomes nothing in the zenith, because the centre  $C$  and the , the place  $A$  and the star are then all on the same straight line ; but it is a maximum in the horizon ; it amounts to  $8'' 6$  for the sun, and for the moon it varies from  $54'$  to  $62'$  according to its different distances from the earth. It is the exact determination of this angle, for the sun and moon, that has made us acquainted with the absolute distance of these bodies from the earth, from whence, by the laws of Kepler, the distances of the other planets have been deduced.

The effect of parallax being contrary to that of refraction, it must be added to the observed altitude to bring it to ; and it should be taken into consideration as well as refraction, in all angles observed or calculated that depend on altitude.

It is the difficulty of appreciating the effect of these corrections, on the apparent distance of the moon from the sun or stars, to convert it to the real distance, that renders the calculation of the longitude by this method so complicated.

When the situation of a celestial body, such as the sun or moon, whose disk has a perceptible diameter, is required, it is the limb that we observe, and the semidiameter must be added or subtracted from this to get the position of the centre ; because this is the point always given in astronomical calculations.

32. By the assistance of these corrections, for which there are tables ready constructed, we can determine with precision the real altitude of a celestial object above the horizon. If we take it on the meridian, and its distance from the equator is known, we may deduce the latitude of the place.

The tables of the sun's motion, or the ephemerides of this body, which are previously calculated, give its distance from the equator, or *declination*, for every day in the year.

We may therefore find the latitude of a place at any time, because we get the height of the equator above the horizon, by subtracting the sun's declination from its altitude if it is above the equator, and adding it if it is below ; a circumstance that we may always ascertain by the situation of the shadow and by the season.

After having found, *a priori*, either by the method described in 10 or in 22, the latitude of their observatory, astronomers have endeavoured to determine the distances of the principal fixed stars from the equator, and the time which elapses between their respective transits over the meridian, and the point of the ecliptic corresponding to the vernal equinox. They have constructed catalogues, in which these results are given, and by the assistance of which we may at any time substitute the

the start for the sun in finding the latitude, and which multiply the means of determining this important element of geographical positions.

33. All these observations presuppose the position of the meridian to be known. The polar star indicates it very nearly in the northern hemisphere, but it is the sun's motion is the most convenient way of ascertaining it with any degree of accuracy.

For, on the day of the solstice, the sun, which does not change its distance from the equator perceptibly, seems to describe a circle parallel to it, and of which the portion  $BCD$ , *fig. 2*, included above the horizon, is divided equally by the meridian, it therefore follows, that its altitude is precisely the same taken at equal intervals before and after its transit over the meridian, and that, reciprocally, if we take the sun's altitude in the morning, and wait for the moment when it returns to this altitude in the evening, the moment of its meridian transit will be the medium between these two.

We may easily comprehend that the length of the shadows of bodies depends not only on their own height, but on that of the sun above the plane on which they rest. If this plane is horizontal, and we raise a vertical  $AD$  upon it, *fig. 14*,  $SD$  being the direction of the solar ray, its length will depend on the angle  $SCA$ , which is evidently the height of the sun above the horizon.

When the sun, therefore, having passed the meridian, is found to be at the same altitude on the other side, in the direction  $S'D$ , the shadow  $AB$  of the vertical  $AD$  will again become equal to the shadow  $AC$ ; and taking the medium between the direction of both, by bisecting the angle  $BAC$  with the right line  $AN$ , we shall obtain the meridian.

It ought to be observed, that if we measure at the same time the length of the shadow and of the stick, we may, by the solution of the rectilinear triangle  $CAD$ , in which the sides  $AD$  and  $AC$  are known, calculate the angle  $ACD$ , or the sun's altitude. We get the meridian altitude if we measure the length of the shadow when it falls in the direction  $AN$ . It is by this means that the early astronomers got the altitudes of the stars; the extremity of an obelisk, or an opening in an upright wall, gave the vertical  $AD$ . This simple instrument is called a *gnomon*; but it has been abandoned since instruments have been brought to great perfection, of small dimensions, which measure angles directly by the arcs of circles.

These latter are used even for the determination of the meridian, by combining them with clocks of extreme regularity. For this purpose an altitude of the sun is taken in the morning, and the time marked; we then wait till the same time in the evening, when the sun has the same altitude, and taking the mean of the interval, we get the time which has elapsed between its meridian transit and one, the observations.

If, for example, the clock marked at the same altitude in the morning,

In the evening

9<sup>h</sup> 45' 30"

2 23 12

The interval between these two moments being - 4 37 42

The half - - - - - 2 18 51

Added to the time of the first altitude - - - 9 45 30

Gives - - - - - 12 4 31

for the time marked by the clock at the instant of the sun's transit over the meridian.

By repeating these observations of *corresponding altitudes*, we are able to regulate the clock, and to get very exactly the moment of the sun's meridian transit, from which we immediately deduce the direction of the meridian line.

It is to facilitate the explanation of this process that I have supposed the sun to be at the solstice; because it may be employed at any time of the year, by applying to the result a slight correction for the change of the sun's declination, in the interval between the two altitudes which influences its duration; but this correction is always very small, and may be neglected when we make use of shadows to find the meridian, at least if the sun is not very near the equinox, at which time the daily variations in his declination is a maximum.

34. The true time may be found by a single altitude of the sun, or a star, when the latitude of the place and the declination of the object is known, and the position of the meridian may then be deduced. It is done thus:

Two great arcs are supposed to pass through the zenith, fig. 15, through the pole, and through the object.

The first, which is the *vertical*, in which the star is, measures its distance from the zenith; the second its distance from the pole. These two arcs form, with the part of the meridian  $ZP$ , comprehended between the pole and the zenith, a spherical triangle, in which the three sides are known; because  $ZP$  is the complement of the height of the pole  $PN$ ;  $ZS$  the complement of the real altitude  $HS$ ; and the arc  $PS$  is deduced from the declination of the star, which must be subtracted from the distance of the pole from the equator, or  $90^\circ$ , if the object is between the pole and the equator, or added to this distance if it is on the other side the equator. With these data, and by the resolution of the spherical triangles, the angles  $PZS$  and  $ZPS$  may be calculated, the same as those of the planes which include the sides  $ZP$  and  $PS$ ,  $ZP$  and  $ZS$ . The first marks the difference which there is between the meridian of the place  $A$ , and that on which the star is at the moment of observation; and if this be reduced into time, it gives the interval that should elapse between the moment of observation and the passage of this star over the meridian; it is called, on this account, the horary angle.

When it is the sun that is to be observed, this time should be added to or subtracted from  $12^h$ , according as the observation is made before or after its transit over the meridian. When we observe a fixed star, the time of its transit must be calculated, which may be easily done by means of the data furnished by the catalogues already mentioned.

The angle  $PZS$ , as it gives the angle which the plane  $ZAN$  of the meridian of the place makes with the vertical plane  $ZAH$  drawn through the star, both perpendicular to the plane  $MHN$ , is measured by the angle of the common sections  $AH$  and  $AN$  of the first and second with the third.

If, therefore, the direction of  $AH$  be marked upon the horizontal plane at the moment of observation, the direction of the meridian  $MN$  may be deduced.

If  $ZS$  be taken  $90^\circ$  the point  $S$  will then be at  $H$  in the horizon, and the horary angle  $ZPS$  will give the difference between the hour of the star's meridian transit and that of its real rising or setting. If the hour of its apparent rising or setting is required, the refraction which raises the

the object above the horizon, must be added to the arc  $ZH$  or  $90^\circ$ , and the parallax which depresses it, subtracted from it.

The angle  $PZS$ , calculated according to these circumstances, gives the distance which the star, at the moment when it is in the horizon, is from the north or south point of this circle, according to the denomination of the pole  $P$ .

The observation of this distance, which is called the *rising* or *setting amplitude* according as it is observed at the rising or setting, and that of the azimuth or the angle comprized between the vertical  $ZS$  and the meridian  $ZP$ , are useful to ascertain how much the direction of the magnetic needle varies from the meridian line, in order that the compass may be made use of to find this line.

35. The calculation of the rising and setting of the sun leads to the determination of the duration of twilight, because it is sufficient to augment the arc  $ZH$  by  $18^\circ$ , the measure of the depression, after which the rays of the sun reflected by the atmosphere, can no longer reach the surface and produce that faint light which appears before the rising and after the setting of the sun.

By making the preceding calculation for different latitudes and different declinations of the sun, the precise duration of the longest and shortest days, and of the longest and shortest twilights, is obtained.

36. The figure and magnitude of the earth is determined by observing the exact difference of latitude between two places, and measuring, with extreme precision, the distance between them, in some standard linear measure. This is one of the most delicate operations of practical geometry. Many attempts to determine the figure of the earth have been made at different periods, but the first that deserves notice was undertaken by Picard in 1670. This ingenious astronomer (one of the most distinguished members of the academy of sciences), by the application of telescopes to astronomical instruments instead of the plain sights formerly in use, so much increased their power, that he was enabled to determine, within a few seconds, angles which before could only be measured to as many minutes.

The reader who is familiar with the elements of geometry, and acquainted with the method of determining the distances and relative positions of places on the earth's surface, will readily form an idea of the great advantages which science derived from this important improvement, and of the great superiority of Picard's measurement over other operations that previously had been undertaken for the same purpose.

The arc of the meridian, measured by Picard, extended from Malvoisine to Amiens: these places were trigonometrically connected by a chain of triangles (fig. 16), and the equality of three angles of a triangle to  $180^\circ$  offered an obvious method of verification. The observed angles were not always found to equal this quantity, but the very small discordance shewed the errors of the operation to be included within very narrow limits.

The determination of the angles of these triangles gave the relation of their sides to each other, but not their real magnitude; but when the value of one of them is known, the rest are readily determined. To effect this a base was measured, with inconceivable care, on the high road between Villejuive and Juvify. Its length was 5663 toises: with this line (represented in the figure by  $AB$ ), and which forms one side of the triangle  $ABC$ , the sides  $AC$ ,  $BC$ , were calculated: these were in the same manner employed to determine the sides of the triangles

*BCD, BCE*, connected with the former, and thus the whole series of triangles were determined, which connected the extreme stations, Malvoisine and Amiens.

To complete the operation it was necessary to determine the length of the line which joins these stations, and its situation with respect to the meridian, for the purpose of computing their meridional distance; and lastly, to ascertain the amplitude of this meridional arc, that is, the number of degrees, minutes, and seconds intercepted by it, by which its relative proportion to the whole circumference is ultimately determined.

This latter part of the operation is entirely astronomical, and requires that the zenith distance of some star should be accurately observed at each station. The star chosen by Picard was a bright star in Cassiopeæ: it was chosen because it passed near the zenith, to avoid the uncertainty of refraction, the effect of which, at low altitudes, was but imperfectly ascertained at that time. The difference of latitude between Malvoisine and Sourdun, near Amiens, was found to be  $1^{\circ} 11' 57''$ , which corresponded to a meridional distance of 68,430 toises, and the value of a degree was estimated at 57,064 toises.

The difference of latitude between Amiens and Malvoisine was found to be  $1^{\circ} 22' 55''$ , and their meridional distance 78,830 toises, which gives the degree equal to 57,057 toises: the mean ultimately adopted was 57,060 toises.

37. The circumference of the earth, supposed circular, is easily deduced from these data, since every circumference contains 360 degrees: dividing every degree into 20 parts, called marine leagues, each equal to 2853 toises, the circumference of the earth will contain 7200 of these leagues.

It now appeared, that if the figure of the earth was not exactly spherical, it at least differed from that form but a very small quantity. It may be observed that, independently of the remark (No. 2), the circular form of the earth's shadow, in eclipses of the moon, and the spherical appearances of the celestial bodies that admit of examination, seemed to indicate, in a decided manner, the true figure of the earth; nevertheless it might have happened, that a considerable variation from a perfect sphere might have subsisted, which would not easily have been detected. But stronger argument in favour of this hypothesis was deduced from this circumstance, that navigators had always employed one measure of a degree on every part of the globe, without any sensible error; for, had very great variation subsisted, they would easily have perceived it, from their daily practice of comparing their difference of latitude with the estimated run of the ship.

The spherical hypothesis being thus confirmed,

|                                                            |               |
|------------------------------------------------------------|---------------|
| Its diameter, calculated from the computed } circumference | 3293 leagues. |
| The radius                                                 | 1146          |
| And its superficial surface                                | 16,501,200    |

38. Notwithstanding the exactness of Picard's measurement, astronomy soon indicated methods of ascertaining, with greater precision, the figure of the earth, and likewise a proof of its diurnal rotation; an hypothesis that had long been adopted, to give a more plausible explanation of the apparent motion of the celestial sphere. Huyghens was the first philosopher who, reflecting on the centrifugal force acquired by all bodies turning on an axis (and exemplified in the path of a stone projected from a sling), suspected that the fluid matter distributed



distributed on the surface of the globe should necessarily yield to this influence, and that the portion near the equator should become elevated, while that in the vicinity of the pole should become necessarily more depressed. According to the calculation made by this philosopher, the equatorial axis should exceed the polar axis by the  $\frac{3}{4}$  part, which corresponds to about four leagues. This hypothesis of Huyghens may be experimentally illustrated by causing a wet bladder to revolve round an axis, when it will be seen to assume a spheroidal figure, flattened at the extremities of the axis on which it revolves.

Newton, who had been led to the discovery of the principle of universal gravitation by meditating profoundly on the laws discovered by Kepler relative to the planetary motions, differed from Huyghens in not considering gravity as a force constantly directed to the centre of the earth, but resulting from the mutual gravitation of all the particles of which the earth is composed to each other. Upon this supposition he found the force of gravity on the surface would be subject to some small variation, both in direction and intensity; that the figure of the earth would be an oblate spheroid, compressed at the poles and elevated at the equator; but he estimated the quantity of this compression at  $\frac{3}{4}$ , nearly double that assigned by Huyghens.

39. These results, which agree as to the nature, but differ as to the quantity of the compression of the earth's figure, admit of a very satisfactory verification, by means of degrees measured on different parts of the terrestrial meridian; for if this hypothesis be correct, the degrees should be greater in the more compressed parts; that is, at the poles, and less in the most elevated or equatorial regions. This consequence is deduced from principles strictly geometrical, and has never been called in question but by those who have quite misconceived the nature and definition of a degree of meridian. The importance of the subject requires that it should be entered into with considerable minuteness.

It is a fact universally acknowledged, and confirmed by experience, that the direction of gravity, or the *vertical*, is always perpendicular to the terrestrial surface, whatever may be its form. We are assured of this by various means; by astronomical observation, by levelling, and by observing the horizon as bounded by the sea. From this consideration a degree of the meridian may be defined, "*the space which it is necessary to pass over on this curve, whatever may be its nature, so that the two lines AZ, A'Z' (fig. 17), drawn from the extremities of this space perpendicular to the curve FG (that is, to its tangents AM, AM', which mark the horizon to the two points A and A'), may make with each other an angle, ACA, equal to one degree.*"

This definition being arbitrary cannot be contested, it only remains to shew, that astronomers have constantly determined the value of a degree according to this definition; and this cannot be denied, since they always measure the amplitude of the arc by comparing the zeniths of the two extremities with the same star, or the verticals drawn through these extremities.

This being admitted, if the curve *FG* be a circle, the lines *CA, CA'*, perpendicular to its tangents, will be radii proceeding from the centre, and must always meet at the same distance from the curve; and since throughout the whole circumference, the same angle will always answer to the same arc, the degrees will all be of an equal length.



It will be very different for curves in which the curvature is not uniform. If two arcs be taken of the same length, as  $Mm'$ ,  $mm'$ , (fig. 18.) the one on the most convex, the other on the most compressed portion of the sphere, then the perpendiculars  $MC$  and  $M'C$ , drawn from the extremities of the first arc will meet nearer to this arc than the perpendiculars  $mc$ ,  $m'c$  drawn through the extremities of the more compressed arc  $mm'$ . The angle  $mcm'$  is therefore evidently less than the angle  $MC M'$ , and consequently if this last is a degree, the arc  $mm$  equal in length to  $MM'$  cannot correspond to a degree. To obtain a degree in the part  $mP$  of the curve we must necessarily comprehend a greater space than  $MM'$ .

This manner of conceiving the subject seems sufficiently distinct to obviate every difficulty as to the conclusion which should be drawn from the inequalities of different degrees; for it cannot be denied that they must be greater where the curvature of the meridian is most compressed, and smaller where it is most convex. About the beginning of the last century a misconception prevailed with some writers, from not sufficiently attending to these considerations, and the opposite consequence was supposed to follow from the mistaken opinion that the degrees were measured by the angles  $MoM'$ ,  $mOm'$  formed by lines drawn from the centre of the ellipse, but this hypothesis was contrary to the operations by which degrees are measured, for the lines  $OM$  and  $OM'$ ,  $Om$  and  $Om'$  not being perpendicular to the curve, are very different from those verticals to which the celestial arc is referred. This error was but of short continuance, nor has it ever since been revived, except by persons quite incompetent to form any opinion on the subject.

40. The Academy of Sciences employed themselves very assiduously in devising methods of verifying the hypothesis of Newton and Huyghens. Two expeditions consisting of some of its most learned members were sent out, one in 1736, to Peru, the other in 1737, to the polar circle, to measure an arc of the meridian at each of these places; the one situate on the equator, the other as near the pole as was accessible. The result of these measurements did not exactly accord with each other and with the intermediate degree measured in France, yet was sufficient to put the question of the flattened figure of the earth beyond all doubt. The degree measured on the polar circle surpassed the equatorial degree 669 toises, and that measured in France, though less than the polar degree, surpassed that of Peru by 307 toises.

These differences, far too considerable to be attributed to error of observation, proved incontestibly that the earth was flattened at the pole, but to determine the difference of the two axes, it was necessary to be acquainted with the nature of the curve which forms the terrestrial meridian. The theoretical investigation of Newton and his successors shewed that this curve might be an ellipse, but in comparing this theory with different operations, a great discordance was found to subsist, and this was supposed to arise from a cause which in some measure strengthened the Newtonian theory of gravitation. And this was the irregular attraction of mountains. Bouguer first suspected that the plumb line of his sector was drawn from its true position towards the mountain Pechintcha in Peru. This effect of local attraction was afterwards confirmed by Dr. Maskelyne, who instituted some very exact experiments for this purpose, in the north of Great Britain. The length of the  
pendulum

pendulum vibrating seconds was found to vary, regularly indicating a decrease of the force of gravity towards the equator, but the quantity of this variation did not exactly accord with the figure of the earth as deduced from the measurement of different degrees. Clairaut and succeeding mathematicians have explained in part this difficulty, by shewing that the above variations indicated an increase of density towards the center, in the matter composing our planet. They have shewn that if the figure of the earth be what is termed by mathematicians a figure of revolution, that is, a figure produced by the revolution of a curve about a fixed axis, in that case, for the fluids on its surface to be in a state of equilibrium, the generating curve should be an ellipse whose lesser axis should pass through the poles.

It was in France that the degree of the meridian was first determined with precision, and it was likewise in France that the operation was brought to an unexpected degree of perfection by the introduction of the repeating circle of Berda in a form adapted to terrestrial operations, instead of being made only for maritime observations for which it was originally intended. Delambre and Mechain were intrusted with the superintendence of this great trigonometrical operation, which was to determine the length of an arc of the meridian extending from Dunkirk to Barcelona. The principal object was to determine the length of the new *metre*, a standard measure equal to the ten millionth part of the terrestrial quadrant, and though this arc does not exceed the tenth part of the quadrant, yet by means of this instrument they were able to perceive the inequality of the degrees resulting from the spheroidal figure of the earth.

Many irregularities were observed in this measurement which are not very material in questions purely geographical.

A most laborious investigation of the whole process was undertaken by a committee appointed by the Institute, assisted by several learned foreigners sent for the purpose by their respective governments, and their determination fixed the compression or ellipticity of the earth at  $\frac{1}{231}$ . This result is the more probable as it agrees with that obtained by the measures of the length of the pendulum in different climates, and with other results from considerations entirely astronomical. The equatorial regions being thus elevated above the rest are subject to an excess of attraction from the celestial bodies, particularly the sun and moon; and it is from this cause that a motion of the axis of the earth takes place, producing the singular phenomenon known by the name of the "*precession of the equinoxes*," accompanied by a periodical irregularity called the nutation.

The degree measured by the academicians at the polar circle indicated a greater quantity for the ellipticity than any other measure, and this circumstance induced a suspicion that some considerable error might have been committed in the process. To remove this doubt M. Melander Hielm, a learned Swedish astronomer, undertook a new measurement of this degree; he employed the repeating circle, and made use of every precaution which the present refined state of the science could suggest. The French academicians only measured one degree. M. Melander included an arc of double that magnitude in his operation, by a first sketch of the calculation communicated to Delalande, the degree in latitude 66,20 appears to be 196 toises less than the former measurement of 1737 and the ellipticity  $\frac{1}{211}$  which does not differ greatly from the determination given above.

The

The planet Jupiter offers a striking example of the effect of the centrifugal force in producing a spheroidal figure. The difference of the two diameters of this planet appears by exact measurement with a micrometer to be nearly  $\frac{1}{80}$  of the whole, and if by analogy we compute the compression of the poles of the earth, by comparing the time of its rotation with that of Jupiter, we find the ellipticity or compression to be about  $\frac{1}{327}$  or  $\frac{1}{318}$  which is nearly the same as that found by other methods. Many other phenomena, the investigation of which is foreign to the plan of this treatise, indicate a similar compression; so that we may consider this compression as a fact no longer disputed, being verified both by experiment and analogy. See *Mechanique Celeste*, tom. II. & III.

41. The principal dimensions of the earth from the latest measurement are as follows:

The arc of the meridian between Dunkirk and Montjou contains  $9^{\circ}$  of the whole circle; its length is equal to 275,792 modules, the module being a rod of platina equal to 199,862 toises. The toise employed in this comparison was that which served for the measure of the degree in Peru, reduced to the length it should have at the mean temperature which prevailed during that operation, and the module taken at the mean temperature of the operation executed in France. The mean of the measured arc corresponded to latitude  $46^{\circ} 11' 5''$ . Hence it was computed that

The quadrant of the terrestrial meridian is equal to 513,074 toises,  
The whole circumference is equal to 2,052,296

which amounts to 7,193 leagues of 2853 toises each\*.

These new measures, determined with such great exactness, differ but seven leagues in the whole circumference from the measurement of Picard, from which we may judge of the very small degree of uncertainty that at present remains on this subject.

The *metre* or the ten millionth part of the quadrant appears from the preceding determinations to be equal to 513,074 toises, 443,296 lines.

With this standard as unity larger measures are taken by decuple progression, and smaller ones by decimal subdivision; a method extremely well adapted to geographical computations, as will be seen in the following pages.

The terrestrial radii not being equal to each other cannot be computed as in the circle; formulæ must be investigated to express the relation of the arcs of an ellipse with the axis of this curve, and it has been found that if the compression is taken at  $\frac{1}{320}$  the same axis *EO* (fig. 18.) or the equatorial radius, contains 2,273,279 toises, and the semi axis *OP*, or the polar radius, is equal to 3,263,050, the difference being equal to 10,229.

Particular formulæ are likewise necessary for computing the value of the meridional degrees for every latitude; these are obtained by finding the point of intersection of the perpendiculars or *Normals* with each other. These and all other requisite formulæ for calculating the positions of different points on the terrestrial spheroid may be found in a publication by Delambre, entitled, "*Methodes Analytiques pour la*

\* If *a* represent the polar radius of the earth, and *b* the equatorial radius; then,

|                           |                            |
|---------------------------|----------------------------|
| <i>a</i> = 3227126 toises | <i>b</i> = 3261432 toises. |
| = 6375737 metres.         | = 6356649 metres.          |
| = 20918230 English feet.  | = 20853912 English feet.   |

Determinations.

Determination d'un Arc du Méridien ;" to which intelligent work the reader who wishes for further information is particularly referred. I shall only mention the value of the degree in  $45^\circ$ , as that is nearly the mean between that of the pole and that at the equator. It is 56,960 toises. This ellipticity of the earth, viz.  $\frac{1}{333}$ , producing in the two diameters a difference of only seven leagues, would only give a difference of  $1\frac{1}{2}$  line in a spheroid of three feet diameter; no attention need be given to this small quantity in the construction of our terrestrial globes, this difference being too inconsiderable to deserve notice relative to the whole sphere. Because still less important in the details of geography, and may be entirely neglected in the construction of geographical charts, I shall therefore throughout this introduction, consider the earth a perfect sphere. The quadrant being divided into 90 equal parts, the mean degree will be 57,000 toises, and the marine league 2850 toises.

These observations apply still more forcibly to the smallness of the terrestrial mountains, compared to the diameter of the earth. The highest known mountain not exceeding 3000 toises in its perpendicular elevation, or a little more than a marine league, and the diameter of the earth containing 2292 of these, a mountain of this height would only have one line of elevation if represented on a globe of 30 feet diameter.

## SECT. II. *Construction and use of different representations of the earth and different parts of the earth.*

43. The most accurate method of representing the surface of the earth is certainly by means of a terrestrial globe, and indeed it is the only one in which the relative position and magnitude of different regions can be given in a simple form.

The most simple and exact method of constructing them is to delineate on the surface (according to directions hereafter to be given) the various countries intended to be represented.

Let two points be taken diametrically opposite to each other, to represent the poles, through these the axis of rotation must necessarily pass. With one of these points as a centre, and at an equal distance from each, let a circle be described which will represent the equator. Any great circle passing through the poles, may be taken as the first meridian, and of which each quadrant beginning from the equator must be divided into  $90^\circ$ . The equator, likewise, reckoning from the meridian, must be divided into  $360^\circ$ . This being done, it will be extremely easy to assign the true position on the globe, of any place whose latitude and longitude are known. All that is requisite is to mark the latitude with a point on the first meridian, and through this point with the pole as a centre, describe a circle which will be a parallel to the equator passing through the place, then a great circle is to be drawn through the poles and through the point of the equator corresponding to the longitude, and the intersection of these two circles will be the position of the place.

44. The latitude of a place being reckoned from the equator, its origin is determined by circumstances depending on the rotatory motion of the earth, but it is otherwise with the longitude of a place being reckoned from a meridian, and there being no decisive reason for preferring one meridian to another, geographers in their choice of this have differed much from each other.

Ptolemy,

Ptolemy, who has transmitted to us the most ancient geographical chart upon record, reckons from the meridian of the Fortunate or Canary Isles, from their being situated at the westward extremity of that portion of the world which was known in his time. And this portion extending farther in the east and west direction than from north to south, the first measure was called longitude or length, the other latitude or breadth, names still retained to this day.

That all longitudes might be reckoned in a uniform manner, Louis XIII. ordered that the first meridian should be placed on the island of Ferro, the most westward of the Canaries; and Delisle, who first introduced a considerable precision into our maps, fixed the longitude of Paris  $20^{\circ}$  to the eastward of this meridian. More recent observations have determined the difference of longitude between Paris and the principal town of the isle of Ferro to be  $20^{\circ} 5' 50''$ , so that it became necessary to advance the first meridian  $5' 20''$  to the east, hence it is now merely an arbitrary circle, not passing through any remarkable place on the earth.

The Dutch reckoned their first meridian from the peak of Teneriffe, a mountain situated in an island of that name, formerly supposed to be the highest in the world.

Geographers reckon their longitudes eastward of the first meridian: they have made choice of continuing round the entire circle; thus a place one degree to the westward has evidently, according to this method,  $359^{\circ}$  of longitude.

These methods have undergone considerable alterations, especially by mariners, since astronomical observations have become generally adopted in the science of navigation, for since the time at which any celestial phenomenon happens, and from which the position of a place is calculated, is always given in the tables for the principal observatory of the country for which they are constructed, it has been found much more commodious to refer the difference of longitude to the exact point for which these tables are made. For this reason French mariners reckon their longitude from Paris, and the English from Greenwich. Moreover, when the longitude of a place is deduced from the difference of time which elapses between the passage of the same star over the meridian, or by the difference of time as reckoned at each place, the difference of longitude may be considered in two different ways; for in travelling towards the east, the computed time is greater than at the point of departure, and this may amount to 24 hours in making a circuit of the whole globe in an eastward direction: the contrary happens in travelling westward; it therefore becomes necessary, in announcing the difference of time, to state whether it arises from a change of situation towards the east or west. And it is the custom in making marine charts, to reckon the longitude from the nearest distance from the first meridian, so that the longitude shall never exceed the demi-circumference or  $180^{\circ}$ . The globe being thus divided into two hemispheres relatively to the first meridian, those places on the eastward half are said to have east longitude and those in the other west longitude.

45. Hence we see the necessity of being able to reduce the longitude referred to one meridian after the manner of geographers, to those reckoned from some other according to the method used by navigators.

For instance, in the case of longitudes reckoned geographically, by making the whole circuit of the globe in an eastward direction, if we wish to compare two meridians, the difference of longitude must be taken; and if the meridian from which the new longitudes are to be reckoned



reckoned is west of the other, this difference is to be added to these longitudes, and on the contrary is to be subtracted, if situated to the eastward.

For example, the peak of Teneriffe being situated one degree to the eastward of the isle of Ferro, all the longitudes reckoned according to the Dutch manner from this mountain, being augmented one degree, will give the longitudes reckoned from the isle of Ferro; it would be necessary on the other hand to subtract one degree from these latter longitudes to obtain the former.

But when they are reckoned from the same meridian, all the longitudes eastward as far as  $180^\circ$  are the same in both methods, but the longitudes westward must be subtracted from  $360^\circ$  to reduce them to geographical longitudes; and reciprocally, we may reduce a longitude which surpasses  $180^\circ$  to a west longitude, by subtracting it from  $360^\circ$ , as in the following example:

Carthegena in America, according to the tables, is situate in longitude  $281^\circ 57'$  from meridian of Paris; taken from  $360$ , the difference  $78^\circ 3'$  is the longitude; this being  $17'$  beyond the opposite point, we have  $179^\circ 43'$  for its longitude, east of the meridian of Paris.

46. The points which are first placed on the globe are those whose longitudes and latitudes have been accurately determined; they are usually the capital cities of different kingdoms, celebrated maritime ports, and the points which serve as boundaries to some of the most remarkable sinuosities of the ocean; the intermediate spaces are filled up from drawings geometrically constructed on a plane surface, or from the description of travellers; to this is added the boundaries of different states and the course of the principal rivers.

47. By means of a globe we may with great facility determine the distance of two places from each other, and measure the extent of different countries. The shortest distance of two points on a sphere is measured on an arc of a great circle passing through them, and as all great circles are equal, the degrees of any great circle are of equal value with those of the meridian; the arc required may be therefore easily measured by applying it by means of a pair of compasses either to the meridian or equator, which are usually graduated. If, for example, the arc contained between two places and referred to the meridian contains  $29^\circ 45'$ , the shortest distance between these points will be obtained by converting these degrees and minutes into nautical leagues of 20 to a degree; the  $29^\circ$  will equal 580 leagues, and each minute being equivalent to one third of a league or nautical mile, the  $45'$  will equal 15 leagues, and the total result will be 595 marine leagues.

For the preceding operation may be substituted a more exact calculation. For this purpose we must solve the spherical triangle *APL* (fig. 8.) formed by the meridians *AP PL* passing through the points *A* and *L* whose distance is required, and by the arc *AL* which joins them in this triangle; the sides *AP, PL* are known; for they are the co-latitudes or distances of *A* and *L* from the pole *P*, and the angle *APL* is their difference of longitude; by the rules of spherical trigonometry the arc *AL* will be found in degrees and minutes, which may be converted into linear measure as above. If *A* and *L* are situated in different hemispheres, one of the polar distances will be greater than  $90^\circ$  by the latitude of one, the points of Carthegena westward of Paris, as it is usually given in marine charts.

The



The bay of Otallipiha, in the island of Otaheite, has been determined by navigators to be in longitude  $151^{\circ} 55' 45''$  west of the meridian of Paris; the geographical longitude is found as follows:

$$\begin{array}{r} 360 \ 00 \ 00 \\ 151 \ 55 \ 45 \\ \hline \end{array}$$

The difference  $208 \ 4 \ 15$  is the longitude required.

When longitudes are reckoned from two different meridians, and distinguished into east and west, it becomes necessary to notice on which side the meridian is situated to which the required longitudes are to be referred, then the difference of longitude of all the longitudes of the same denomination with this side arc to be subtracted, and those of a contrary denomination added.

Example.—The meridian of the observatory of Paris being  $2^{\circ} 20'$  east of that of Greenwich, all the longitudes eastward of Greenwich must be diminished to be reduced to the meridian of Paris, and those longitudes which are west must be augmented by that quantity. Thus the longitude of the Cape of Good Hope being  $18^{\circ} 23' 15''$  east of the meridian of Greenwich becomes  $16^{\circ} 3' 15''$  east of Paris. On the contrary the bay of Otallipiha, placed by English navigators  $149^{\circ} 35' 45''$  west of the meridian of Greenwich, becomes  $151^{\circ} 55' 45''$  when referred to that of Paris.

There is a case which sometimes gives rise to a little difficulty, that is, when the place to be reduced lies between the two meridians or their opposites, the place being thus east with respect to the one and west with respect to the other: for instance, in the first cases the difference of the meridians must not be subtracted from the longitude to be reduced, but the contrary which changes the denomination.

In the other case the number which results from the addition of the difference of longitude to the longitude reckoned from the meridian intended to be changed exceeding  $180^{\circ}$ , will be beyond the opposite meridian of the place to which it is referred, it must therefore be taken from 360, and consequently its denomination changed.

Example. Dover being  $1^{\circ} 18' 30''$  east of Greenwich, this subtraction must be made:

$$\begin{array}{r} 2^{\circ} \ 20' \\ 1^{\circ} \ 18' \ 30'' \\ \hline \end{array}$$

The difference  $1^{\circ} \ 1' \ 30''$  is the longitude of Dover west of the meridian of Paris.

*Turtle Island*, in the Pacific ocean, is placed by the English in  $177^{\circ} 57'$  west longitude; this, added to  $2^{\circ} 20'$  equals,  $180^{\circ} 17'$ .

When the places whose distance is required are situated on the same meridian, nothing is more requisite than to convert their difference of latitude into linear measure. The latitude of a place is found on a globe by measuring the shortest distance of the place from the equator, or from a known parallel of latitude, and referring it to the graduated meridian, the number of degrees intercepted on this arc is that which must be added or subtracted from the latitude of this parallel, to obtain the latitude of the place proposed.

48. But the difference of longitude of two points situated on the same parallel are by no means the measure of their distance, except when they are on the equator itself; for these parallels being lesser circles, whose radii diminish as they approach the poles, their degrees have not the

the same value as those of a great circle. And a remark which is sometimes omitted should be made, that the absolute length of these arcs is not the shortest distance between their extreme points, through which a great circle must always be conceived to pass; for the radius of the parallel being shorter than that of the great circle, its arc is more convex, and its curvature greater than that of a great circle passing through its extremities, and consequently it is longer.

In following constantly the same *alignment*, it is impossible to describe any other than a great circle of a sphere, because the shortest line in this case is taken from one point to another.

Notwithstanding the degrees are different on different parallels, yet the absolute length of the degree on any given parallel is easily concluded from the known value of the meridional degree; for the degrees of these circles are proportional to their radii, and the radii of the equator and its parallels are perpendiculars let fall from the different points of the meridian upon the diameter of the circle as represented in (fig. 8.) by the lines *EC*, *HK*; therefore, if the radius *EC* be taken as the measure of a degree on the equator, and it be divided into twenty parts, or marine leagues, the number of parts which the radius *HK* contains will be the value of the degree of the parallel *LM*.

Hence it follows, that to determine the length of the degree for each parallel, it will be sufficient to describe a quarter of a circle round upon a line *EC*, taken to represent the equatorial degree, to divide this quadrant into degrees, and to draw perpendiculars from each point of division to the radius *CP*, these lines will be respective lengths of the degrees at the points to which they correspond, or to every degree of latitude.

The line *HK* being the sine of the arc *PH*, and the cosine of the arc *EH*, of which one measures the distance of the parallel *LM* from the pole, and the other the latitude of the parallel, it is evident that, taking for unity the degree at the equator, the degree of any parallel whatever will be the cosine of the latitude as given by the trigonometrical tables.

The latitude of Paris being  $48^{\circ} 50'$ , and the cosine of this angle 0.684 of the radius, the degree of longitude is found by multiplying this number by 20 marine leagues, which will give 13.68 leagues, which is space that must be taken on this parallel, to produce a change of one degree of longitude. At  $60^{\circ}$  of latitude the degree of longitude is only 10 leagues, because the cosine of  $60^{\circ}$  is equal to the radius.

49. The meridian being a great circle, it will be described on the earth by following the direction of a meridian line traced in any place whatever, and every 20 leagues described on this line will produce a change of one degree of latitude; but a parallel to the equator will not be described by following a direction perpendicular to the meridian on the east and west line; for this alignment would determine a plane perpendicular to the meridian, and which continually deviates from the parallel as it recedes from their common origin: this is shewn in fig. 19, where *PEP* represents a meridian, *EGI* the equator, *HLK* a parallel, and *HIK* the great circle perpendicular to the meridian at *H*. It may be observed likewise, that all the great circles perpendicular to the same meridian meet in two opposite points *I I'*, which are the poles of this meridian; these great circles, therefore, continually approach to each other, and it is only in a very small space on each side the meridian *PEP*, that these circles *IEP*, *IHP* can be considered as parallel, and for the same reason it is only in a very small space that the east and west

lines, or perpendiculars to the meridian, can be considered as a parallel to each other.

The great circle *IHK*, perpendicular to the meridian *PEP*, cuts the other meridian *P'LP* in angles which are different for each; but the parallel *HLQ* cuts them all at right angles. Hence, in proceeding from the point *H* to the point *L* on the parallel, it is necessary to deflect at every instant from the first direction, to keep at right angles to the different meridians which are successively passed over, and which all tend to the pole *P*. It is only, therefore, by the assistance of a compass, or by some similar but more exact method of determining the position of the meridian, that we can, by continually advancing in a direction due east or west, maintain always the same distance from the equator, and proceed upon the same parallel.

And in general when, by means of a compass, we follow a direction which cuts all the meridians at the same angle, that is, when we keep on the same rumb, the alinement is changed at every point, to preserve a constant angle with the new meridian which converges with the preceding; hence a sort of spiral line is described, called a loxodrome, and of which a more particular account will be given in the method of constructing charts for the purposes of navigation.

50. To measure commodiously the extent of any region traced upon the globe, we may conceive its surface divided into quadrilateral figures by meridians, and their parallels drawn either to every  $10^\circ$  or  $5^\circ$ , that is, generally into portions sufficiently small that any irregular space may be compared without difficulty with the quadrilateral figure which contains it. The superficial extent of each quadrilateral, contained by two meridians and two parallels, is found by first determining that of the entire zone contained by the two parallels, and this will be to the area of the whole sphere as the distance of the parallels which terminate it is to the diameter; which distance corresponds on the diameter to the difference of the sines of the latitudes of each parallel, as appears in fig. 8, where the line *CK* represents the difference between *CP* and *KP*.

For example. For the zone contained by the parallels  $48^\circ$  and  $49^\circ$ , and in which Paris and its environs is situated.

$$\begin{array}{rcl} \text{The sine of } 49^\circ & = & 0.755 \\ 48 & = & 0.743 \end{array}$$

$$\text{Difference} \quad 0.012$$

its half, 0.006, indicates that this zone contains  $\frac{1}{166.7}$ , or  $\frac{1}{167}$  of the total surface of the globe, and this being estimated at 16,501,200 square leagues, the above zone may be estimated at 99,007 square leagues.

As to the magnitude of this zone contained between two given meridians, it evidently bears the same proportion to the whole quantity as the difference of longitude to the whole circumference; the extent, therefore, of a quadrilateral contained by one degree in the longitude of Paris, is the 360th part of 99,007, or about 275 square leagues.

A similar calculation being made for a quadrilateral containing one degree of longitude for every degree of latitude from the equator to the pole, will give a table of results, by means of which the extent of any region may easily be computed, either on a globe or map.

51. To place a globe conveniently, and that it may serve for many useful purposes, its axis is usually fixed in a diameter to a graduated circle

circle of brass, and which represents the plane of any celestial meridian whatever: this circle passes through another fixed to the support of the globe, called the horizon, because the axis of the globe admitting of every possible inclination with respect to this circle, it may be thus made to represent universally the horizon of any given place. The poles may thus be set at any elevation above the horizon, and the globe turned on its axis independently of the meridian, which always remains fixed; the axis of the globe carries an index, which is adapted to a dial divided into 24 parts or hours, and to the whole is sometimes added a compass, to place it in the direction of the meridian.

To facilitate the measuring of the distance of one point from another, a thin moveable arc is added, called a quadrant of altitude, and which may easily be applied in any direction, and being the arc of a great circle, it measures, on its graduated limb, the shortest distance between any two points to which it is applied. When the upper point is fixed in the zenith, the lower coincides with the horizon, and it then marks the distance from the horizon of every point through which it passes, or the altitude of any star that may be at the time vertical to that point.

52. The following are the most useful problems that may be solved by these instruments:

1. The latitude of any place is found by bringing it under the brazen meridian, whose graduated edge will indicate the distance from the equator.

2. The longitude of a place is found by observing the point on the equator intersected by the meridian which passes through it.

3. And reciprocally the position of a place is found, when its latitude and longitude is given by bringing the point of the equator corresponding to the longitude under the meridian, where the given latitude will indicate the required place.

4. The hour reckoned in one place, at the moment of noon at any other, is found by bringing the latter under the meridian, and placing the index of the dial at 12; then turning the globe till the other place is brought under the meridian, the index of the dial will mark the time required: the time will be *afternoon*, if the globe be turned towards the east; and before noon, if turned towards the west.

53. The length of the longest day for every place in either hemisphere (for instance the northern) is found by elevating the meridian in such a manner that the arctic circle may just become a tangent to the horizon, the horizon will then represent the circle of illumination; then, if the place required be brought to the meridian, and the hour index placed at 12, the globe being turned round till the place comes to the horizon, the index will mark the time at which the point passes from the enlightened into the obscure hemisphere, or the time of sunset: the number of hours will be half the length of the day required.

By placing the pole nearer to the horizon, this circle takes the position of the circle of illumination: for periods preceding the solstices, and the length of the days for their respective periods, will be indicated as before.

It may be farther remarked, that, in this position of the globe, all the points which are situated at the same time on the westward part of the horizon are those which, passing at once from the obscure into the enlightened hemisphere, see the sun rise at the same instant of time and it passes the meridian to all those places situated on the meridian. The cardinal points, with their subdivisions, are usually placed on

globes, and the position of any place with respect to the sun at the moment of its rising or setting, by observing at what point of the horizon the place proposed passes from the obscure to the enlightened hemisphere, and *vice versa*: the opposite indications will shew the situation of the sun relative to the meridian of the place proposed.

This is not, however, the most usual way of solving these problems on the globe; it is most usual to represent each particular case separately; but this method seems to me preferable, because it is more general, and because it offers a physical representation of what has been said (No. 15.). It will be sufficient to place a globe in obscurity, and to illuminate one hemisphere by a strong light placed at a considerable distance, and the phenomena will be rendered apparent which the sun produces during a revolution of the earth relatively to the different positions which its axis takes with respect to the sun.

And generally, the declination of a star being known, if the pole of the same denomination be elevated above the horizon by a quantity equal to that declination, this circle will then divide the heavens into two parts, to one of which the star is visible, while invisible to the other. The above method, therefore, may be employed to determine the places to which a star given in position is visible at any given instant.

54. The distance between any two points on the globe is measured by bringing one of them to the meridian, and placing the center on which the quadrant of altitude turns directly over it; then turning the quadrant of altitude round till it passes through the other point, and the degrees intercepted on the arc will be the distance required.

If the direction or azimuth which one point makes with the other be required, one of them must be brought into the zenith or pole of the horizon; that is, the globe must be rectified for that point, or the pole elevated to the latitude of the place; the horizon of the globe will then represent the horizon of the place: this being done, and the quadrant of altitude adjusted in the manner above described, the number of degrees intercepted on the horizon by the quadrant of altitude, and the north or south point of the horizon, is the azimuth required, which is the angle which a great circle passing through the given points makes with the meridian.

55. The problem (53) might be solved for any particular place, by substituting the rational horizon for the circle of illumination. For this purpose the globe must be rectified for the latitude of the place, which must be brought to the meridian, and the hour index set to 12.; then the point must be marked which is directly under the degree of the meridian corresponding to the declination of the sun; this point is then to be brought to the horizon, and the number of hours marked on the dial will shew the time between noon and sunset; for it is evident that a point at a certain distance from the equator will describe a circle which will represent the sun's path at the time it has a similar declination.

And by the same method may be found the time which elapses between the rising of any star and its meridian passage, by comparing it with a point whose distance from the equator is equal to the declination of the star.

56. The difficulty of executing globes large enough to shew the details of geography, and the embarrassment occasioned by their use, have taught the necessity of representing on a plane surface the respective situation of different objects on the globe of the earth.

Curved



Curved surfaces, as compared to plane, are divided into two classes; some, like those of cones and cylinders, being capable of extension on a plane, without rent or fold, whence they are called developable surfaces; while others, like those of a sphere and spheroids, are quite incapable of this extension. If the earth had been comprised in the first class, a simple developement, of easy execution, would have presented maps, in which the distances of the places, and the respective extent of the countries would have been preserved, such as they are in nature; but unhappily the earth is a spheroid, and its surface can never exactly coincide with a plane: whence arises the impossibility of preserving at the same time, on a map, the natural relations between the extent of the countries, the distances of places, and the strict resemblance of configuration. We are therefore obliged to have recourse to different constructions, in order to represent, at least in an approximate manner, each of these relations.

These constructions have been called *projections*; a name applied in general to drawings, of which the object is to represent, on a plane surface, the dimensions of space and bodies. They are of two sorts, some being perspective representations of the globe, or parts of its surface taken from different points of view, and upon different planes considered as pictures; while the others are only kinds of developements, subject to the laws of approximation, and confined to the relations which are intended to be preserved. To this latter kind belong the large map of France, and the sea charts in daily use.

Lambert, and after him Euler and Lagrange, have reduced the theory of these two kinds of projections to the general principle of the transformation of circular co-ordinates\*, assumed from the sphere, namely, meridians and parallels, into other straight or curved lines traced on a plane, and depending upon conditions relative to the desired qualities of the map.

57. The choice of the point of view, and of the plane of the picture being made the projection, may be constructed for each particular object, according to the rules of common perspective, here reduced to determine on the picture the point from which the visual ray shall reach the object; but the number of operations which must be made, if each point of the country meant to be represented were considered separately, being too considerable, it is thought sufficient to construct the lines which are the perspectives of the meridians and parallels, and which, by their junctions, determine all the geographical positions.

Setting aside the oblate form of our globe, and considering it as a spherical, it may be perceived that the whole of the visual rays, extended to all the points of any circle formed on the globe, constitute a cone, of which the section, in the plane of the picture, can only be one of the curves of the second degree, and even in some cases a straight line. It would appear that the first decisions, in the choice of the point of view, were dictated by the consideration of the consequent facility in the construction of the map; and that, from the time of Ptolemy, it had been observed that in making the plane or picture pass by the centre of the sphere, and placing the point of view at the extremity of the radius, drawn perpendicularly on that plane, all these circles of the globe were represented by other circles, of which the construction was easy, and which intersected each other in the map, under the same angles as upon the sphere, so that the spherical rectangular

\* Things arranged and dependent on the same order.



quadrilaterals, comprehended between the meridians and the parallels, were represented by curvilinear quadrilaterals, also rectangular\*. It has since been proved that the infinitely small portions of the globe assume in this projection their natural figure, but it must be observed, that this similitude only takes place in very small spaces. Such are the conventions which have given rise to the *stereographic projection*, and such are its principal properties†.

It is more commonly employed to represent an entire hemisphere; and when two are joined they constitute a map of the world. When those are chosen which are circumscribed by the first meridian, the picture is in this case the plane of the meridian, and the eye is placed in the pole of that circle. It is sufficient to see a map of this kind to comprehend that the quadrilaterals, comprised between two consecutive meridians and parallels, augment in extent in proceeding from the centre to the circumference, and that in a very considerable degree. It is perceived, besides, that this enlargement results from the obliquity of the visual rays, when they depart from that which is perpendicular to the picture, and which may be called the optical axis. Hence it follows that the parts towards the borders of the hemisphere have a far more considerable extent than those towards the centre; and that mistakes will arise if they be referred to the latter‡.

Maps of the world have the further inconvenience of separating the adjacent parts of the globe, and of only offering in an exact manner the respective situation and the configuration of the countries towards the middle of the map. This defect is remedied in *Polar and Horizontal Projections*; the first, representing the hemispheres separated by the equator, display with sufficient exactness the regions around the poles; while the second present the hemispheres above and below the horizon of the place to which they refer, and are the most proper for the knowledge of the surrounding regions, or their antipodes, whence they merit particular attention.

58. I shall therefore give the demonstration of the fundamental properties of these projections, whence I shall deduce the process of their construction. The eye being supposed at  $O$ , fig. 20, the plane  $ADBE$ , drawn through the centre  $C$  of the sphere, perpendicular to the radius  $OC$ , is the plane of projection. Any circle  $GIH$ , traced upon the surface of the sphere, determines the cone  $OGIH$ , of which the intersection  $gib$ , with the plane  $ADBE$ , is the projection of the proposed circle. Now the plane  $AFBO$ , drawn by the line  $OF$ , and by the centre  $K$  of the circle  $GIH$ , cutting at right angles the planes  $GIH$  and  $ADBE$ , presents the means of knowing the angles which these planes make with the sides of the cone  $OG$  and  $OH$ ; and it will be seen that the angle  $OGH$ , of which the summit is at the circumference, having for measure the half of the arc  $OBH$ , is equal to the angle  $Obg$ , which, being placed between the centre and the circumference, has for its measure the half of the sum of the arcs  $HB$  and  $AO$ ; besides, the angle  $O$  being common to the two triangles  $OGH$  and  $Ogb$ , it follows that the angles  $OHG$ ,  $Ogb$  are equal, whence the cone  $OGIH$  is cut in an antiparallel direction by the plane  $ADBE$ , whence the section  $gib$  is a circle.

\* Ptolomæi Planisphærium, etc. Aldus Venetiis, 1558.

† The word is derived from the Greek, meaning the art of drawing the form of solids on a plane.

‡ Some geographers begin with the corners, and work towards the centre.

This last, which is the projection of the circle  $GIH$ , will be determined when we know its size, and the position of its diameter, and to obtain them it is sufficient to construct in the plane  $AObF$  the triangle  $GOH$ , in accord with which the plane meets the cone  $OGIH$ , the line  $AB$ , which then represents the plane of projection, intersecting the triangle  $OGH$ , in the diameter  $gb$  of the projection required.

59. This being established, in order to construct a map of the world on the plane of the first meridian, the point of view being placed in the centre of the hemisphere, opposite to that which is to be represented, will be at the intersection of the equator and meridian, which divides this last hemisphere into two equal parts. First is considered the section of the globe made by the plane of the equator  $ADBE$ , fig. 21. The line  $AB$ , the common section of that plane and of the picture on the projection, represents the equator; the points  $M$  and  $N$  mark two points of the division made on this circle by the meridians; the eye is then at  $D$ , and the visual rays  $MD$  and  $ND$ , drawn to the points of division  $M$  and  $N$ , give upon  $AB$ , at  $m$  and  $n$ , the perspectives or projections of these points; the three equal arcs  $AM$ ,  $MN$ ,  $NE$  are then represented by the parts  $Am$ ,  $mn$ ,  $nE$ , visibly unequal.

In drawing through the point  $M'$  diametrically opposite to the point  $M$ , a visual ray  $M'D$ , we shall finish the angle  $MDM'$ , formed by the two opposite sides of the cone, passing by the circumference which comprehends the meridian drawn to the point  $M$ , and its opposite, and prolonging the straight lines  $AB$  and  $M'D$  till they meet at  $m'$ , the interval  $mm'$  will be the diameter of the projection of the meridian passing through the point  $M$ .

If it be now conceived that the circle  $ADBE$  turns around the diameter  $AB$ , it may be brought on the plane of the first meridian. The line  $DE$  will then become the axis, the points  $E$  and  $D$  will be the poles, and the lines  $MD$ ,  $M'D$ , not having changed their situation with regard to  $AB$ , if there be described on  $mm'$ , as diameter, an arc of a circle  $EmD$ , it will be the projection of a meridian distant from the former by an arc equal to  $AM$ .

To construct the projections of the parallels to the equator, we must consider the section of the globe made by the plane of the meridian passing through the sight, and perpendicular to the first meridian. We may still use fig. 21, and conceive that the plane of the first meridian  $ADBE$  has turned around the axis of the poles  $DE$ , to assume a situation perpendicular to its first. The point  $B$  will then be the spot occupied by the eye, the axis  $ED$  will be the projection of the middle meridian, the points  $M$ ,  $N$ , taken on this meridian, will belong to the parallels, whose latitudes are  $AM$ ,  $AN$ ; in fine, the visual rays  $BM$ ,  $BN$ , will give at  $r$  and  $s$  the projections of the points  $M$  and  $N$ .

In assuming the arc  $EN'$  equal to  $EN$ , is determined on the parallel a point  $N'$ , diametrically opposite to the point  $N$ ; and prolonging the visual ray  $BN$ , and the line  $DE$  till they meet at  $s'$ , the interval  $ss'$  will be the diameter of the projection of this parallel. If, therefore, the circle  $ADBE$  be brought to the position of the first meridian in this motion around the line  $DE$ , the right lines  $BN$ ,  $BN'$ , will not change their respective situations; and there may be described on  $ss'$ , as a diameter, the arc  $NsN'$ , which will be the projection of the parallel passing at the latitude  $AN$ .

60. All this construction, which may be effected on one figure, is only intended to find the graduation of the diameter  $AB$ , which repre-

sents the equator, and that of the axis  $ED$ , which is also the meridian of the middle of the map; for the points  $m$  and  $n$ , combined with the poles, give three points of each meridian, and there are also three for the parallels in combining the two extremities  $N$  and  $N'$  with the point  $s$  determined on the diameter  $DE$ .

The lines  $Cn$ ,  $Cm$  are easily calculated in the rectilinear triangles  $DCn$ ,  $DCm$ , rectangular at  $C$ , whence we know the common side  $CD$ , and the angles  $CDn$ , and  $CDm$ , measured by the halves of the arcs  $NE$  and  $ME$ , which are the complements of the longitude of the meridians.

The triangles  $BCr$ , and  $BCs$ , give in like manner the distances  $Cr$  and  $Cs$ , which form the graduation of the meridian in the middle of the map.

61. The construction of the *polar projection* consists in the determination of the degrees of the meridian, and fig. 22. indicates the operation. The circle  $ADBE$  represents a meridian upon which the eye is at  $D$  at one of the poles, and whose projection is the diameter  $AB$ : the arcs  $AM$ ,  $MN$ ,  $NE$ , are projected upon that line in  $Am$ ,  $mn$ ,  $nC$ , by the visual rays  $DM$ ,  $DN$ . It may be then conceived that the plane  $ADBE$ , turning round  $AB$ , may apply itself on the equator; and from the centre  $C$ , with the radii  $Cn$ ,  $Cm$ , circles are described, which are the projections of the parallels to the equator, passing by latitudes equal to the arcs  $AN$  and  $AM$ . As to the meridians, as their planes intersect each other according to the axis of the poles, which is at the same time the optical axis, their projections are the radii  $CM$ ,  $CN$ , corresponding with the longitudes  $AM$ ,  $AN$ .

62. In the *horizontal projection*, the circle  $ADBE$ , fig. 23, indicates the meridian of the place proposed, which divides its horizon into two equal parts. The eye being always at  $D$ , the visual rays  $DP$ ,  $DN$ ,  $DN'$ , drawn to the superior pole  $P$ , and to the extremities  $N$  and  $N'$  of whatever parallel, mark upon  $AB$ , which is the projection of the semicircle  $AEB$ , the projection  $p$  of the pole, and the diameter  $nn'$  of the parallel. The equator is obtained in the same manner,  $FF'$  denoting its diameter, while  $ff'$  is that of its projection. This projection, and that of the parallel, may be traced in conceiving that the circle  $ADBE$  is turned around the diameter  $AB$ , to fall on the horizon; the equator being the arc  $Efd$ , and the parallel being the circle  $nn'$ .

To determine the projections of the meridians, first is sought that of the inferior pole  $P'$ , which the visual ray  $DP$  being prolonged, gives at  $p'$ . Conceiving then the circle  $ADBE$  to be applied anew on the horizon, there is described on the diameter  $pp'$  a circle which represents the projection of the meridian perpendicular to that of the place. As they must all pass through the points  $p$ ,  $p'$ , the projections of the meridians will have their centres in the line  $de$  perpendicular upon the middle of  $pp'$ ; and to finish their determination, it is sufficient to find a third point, which may be done in many ways. That which I am about to give rests upon a construction which agrees with all similar determinations, and which consists in referring or projecting the different points of the equator upon the horizon, by right lines perpendicular to the plane of the latter.

For this purpose, I assume an arc  $BL$ , equal to the longitude of the proposed point of the equator, and lay down  $GL$  perpendicular to  $DE$ , then bring  $GL$  to  $CF$  from  $C$  to  $L''$ , and drawing  $L''L'$  parallel to  $DE$ , the point  $L'$  of the intersection of the lines  $L''L'$  and  $GL$  is the

the projection required, or the foot of the perpendicular let down from the point of the equator, of which the longitude is equal to  $BL$  on the horizontal plane\*.

This being done, if we observe that the plane, passing through the sight and the proposed point of the equator, being drawn by the line  $CD$ , perpendicular to the plane of the horizon, necessarily contains the perpendicular let down from that point at  $L'$ , it will be seen that its intersection with the horizontal plane is the line  $CL'$  drawn by the centre of the horizon. This right line will determine at  $l$  on the arc of the circle  $E/D$ , which is the stereographic projection of the equator, the projection of the point proposed. In repeating this construction, that of the equator may be easily graduated, conformably to the laws of the projection.

It will also be remarked, that the line  $CO$  is the projection of the circle of altitudes (sect. 51.) drawn through the spot which occupies the centre of the map, and by the proposed point of the equator, since the planes of the circles of altitude passing by the line  $DE$  necessarily have for projections, lines drawn by the centre  $C$  of the map.

63. The inequality of the spaces of the graduation of the stereographic projection does not, in general, permit the application of a rectilinear scale to compare the respective distances of places, distances which are measured according to an arc of the great circle which joins these places two and two; but we may always, by means of the graduation itself, measure the distance between the centre of the map and any one of its points; and we may, in consequence, find upon a horizontal projection, referred to Paris, for example, the distance from this city to all the other points of the globe. This property is the consequence of a projection in which all the great circles which pass by the centre of the map, intersecting each other according to the optical axis, have for their perspectives right lines drawn by that centre, and admit a graduation similar to that which is marked upon the equator of maps of the world constructed on the plane of the meridian.

In placing the point of view at the centre of the sphere, and assuming for the picture a plane tangent to its surface, there is obtained a perspective of the globe, in which all the great circles are represented by right lines. It alters like the preceding, and still, in a greater degree, the extent of the countries in proportion as they are distant from the centre of the map; nor can it even represent an entire hemisphere, because the visual rays, drawn by the circumference which terminates this hemisphere, are parallel to the plane of the picture; but it may be very useful for portions of small extent, and admits a kind of scale of which the construction is not difficult. It is doubtless for this reason that Prony proposed its use in surveying lands. This projection is further remarkable, as it is employed in making sun dials.

It will not be difficult to modify in this case the procedures which I have already given for the construction of meridional, polar, and horizontal projections. There must be drawn from the point  $C$  of the figure cited in these articles, the visual rays which determine the section made in the cones, perpendicularly to the circles which are to be

\*This process will be evident by its description alone to readers who have studied the geometry of planes and surfaces; they will perceive that the angle  $FCB$  is that which forms the plane of the equator with the horizon; and that in consequence we have, in order to construct the points of the first, its common section  $DE$  with the second, and the angle which they comprehend. See *Complément des Elémens de Geometrie*.

represented, and the plane must be assumed parallel to that which passes by the centre and is tangent to the circle  $ADBE$ . It will then be seen that, in the projection on the plane of the first meridian, the meridians will be straight lines, perpendicular to the equator, which will also be a right line; and the parallels to the equator will be hyperbolas. In the polar projection the meridians will be straight lines, drawn from the centre of the map, and the parallels to the equator circles having their centre at that point: in fine, in the horizontal projection the meridians will be right lines drawn through the projection of the superior pole. The parallel of the place to which the projection is referred will be represented by a parabola, those which are nearer the pole by ellipses, and the others on each side of the equator by hyperbolas.

64. If we conceive the point of view carried to an infinite distance from the picture, the visual rays will become parallel among themselves; and supposing them then perpendicular to the plane, we shall have the *Orthographic Projection*, in which the meridians and parallels are in general represented by ellipses, excepting in the polar projection, where the meridians are right lines, and the parallels concentric circles. The whole of the visual rays, directed to the different points of the circle to be represented, then forms a cylinder, of which the axis is parallel to the line marked  $CO$ , fig. 20. To form an idea of this it is sufficient to inspect fig. 24, analogous to fig. 21; the visual rays  $Mm$ ,  $Nn$  drawn by the different points of the circle  $ADBE$ , considered as the equator, will determine on its diameter, the graduation conformably to the laws of the projection. The space  $mm'$  comprised between the two perpendiculars  $Mm$ ,  $M'm'$ , led from the two opposite points of the meridian, is the lesser axis of the ellipse, which this circle has for its projection; and the great axis is the diameter of the sphere, or of the first meridian which remains circular. The parallels to the equator, having their planes perpendicular to that of the first meridian, are there represented by their diameters, as  $NN'$ . After the manner in which I have modified the design of the meridional projection, it is easy to find the changes which that of the two others must undergo.

A very simple sketch will instantly display the orthographic projection of any place on the plane of the meridian, and its distance perpendicular to that plane. Having drawn upon the plane of the first meridian  $ADBE$ , by the latitude  $AN$  of the place proposed, the diameter  $NN'$  of its parallel, the circle is described, and we take the arc  $NL$  equal to the longitude, then drop upon  $NN'$  the perpendicular  $Ll$ , the point  $l$  being the orthographic projection of the place, while  $Ll$  is its distance on the plane of the meridian. The same sketch executed for another point also giving its projection, it is easy to find the right line across the globe which immediately joins these two places.

The operation is simplified when projected on the plane of the equator. There is formed the angle  $ACB$ , fig. 25, equal to the difference of longitude of the places proposed; the arcs  $AM$  and  $BN$  are assumed as equal to their respective latitudes; the right lines  $Mm$  and  $Nn$ , perpendicular on  $AC$  and  $BC$ , give the projections  $m$  and  $n$  of these places, while  $mn$  is that of their distance. If then you raise on  $mn$  the perpendiculars  $mM''$   $nN''$ , respectively equal to the right lines  $Mm$ ,  $Nn$ , and draw  $M''N''$ , this right line will be the chord of the arc of the great circle comprised within the two places proposed; and in carrying



it to the meridian divided into degrees, we shall obtain, as in section 47, the measure of the shortest road from the one point to the other.

If the point  $N$  was in the hemisphere opposite to the position of the point  $M$ , it must be constructed at  $N'$  beneath  $BC$ , its projection on the plane of the meridian being still  $n$ ; but we must carry the perpendicular  $N'n$  beneath the right line  $mn$ , and the shortest rectilinear distance from the two proposed points will then be  $M'N''$ .

65. The orthographic projection has, with regard to spaces, the contrary defect from the preceding, as it diminishes them from the centre to the circumference, on account of the obliquity under which the lateral parts of the sphere are presented to its diametral plan. La Hire thence concluded, that in prolonging the optical axis out of the sphere, the plane or picture still passing by the centre, there existed on that axis a point where the inequality of spaces was the smallest possible; for it is evident, that when the point of view is at such a distance, that the obliquity of the rays which tends to enlarge the spaces, becoming smaller, may be compensated by that of the projected surfaces which tends to diminish them, and their increase must be changed into decrease. There cannot be absolute equality in all, because the law of their variation depends on their particular situation; but at the limit which we have assigned, their differences are sufficiently small to be neglected in a general map.

La Hire\* has assumed the point of view of his projection, at the distance from the sphere equal to the sine of forty-five degrees. Fig. 26. shews how the graduation of the equator is obtained, when the projection is made on the plane of the meridian, placing the eye at the point  $d$ , such as  $Dd = EG$ , the arc  $BG$  being the half of  $BE$ , whence  $Cg$  is the half of  $BC$ . It might also be required to place on the line  $DE$  the point  $d$ , so that the degrees of the equator contiguous to the point  $C$ , or to the meridian of the middle of the map, and to the point  $A$ , or to the first meridian, should occupy the same space on the diameter  $AB$ ; which is easily accomplished by means of the trigonometrical formulæ, which express the size of any space  $mn$ .

I do not know if maps have been constructed on this projection, and I am surprised that it should not become common, for it appears to me preferable to the common projection of maps of the world. It will be in vain objected, that the meridians and the parallels being therein represented by ellipses, it must be more difficult to trace, for it is evident that the method of the projection must always be for a skilful geographer the smallest of the difficulties presented in the execution of a map. There are numerous simple and convenient methods of drawing ellipses through points; and we are often obliged to employ them for the circular meridians and parallels, placed towards the centre of maps of the world on the stereographic projection, because their radius is too great to be described with compasses. The horizontal projection performed after the principles of La Hire, would be capable of giving distances as well as the stereographic. In fine, I cannot see that any property of the stereographic projection can recompence in planispheres the inconveniences of the disproportion thence arising between equal spaces; and the error into which a disciple would be led who wished to compare, for example, India with Novaya Zemlia, or the Red Sea with Hudson's Bay.

\* Mem. de l'Acad. des Sciences, 1701, p. 260.



66. The stereographic projection is little used in particular maps, and the Germans alone have introduced it, particularly Haffius, who composed the greater part of the maps in the Atlas of Homann, in much request towards the middle of the last century. The four parts of the world, separately represented in this projection, are only portions of a planisphere constructed on the like dimension, on the plane of a meridian perpendicular to that which passes through the middle of the map, the eye being placed in the plane of the latter. The excessive length of the radii of the circles renders them very difficult to observe; and the alteration of the spaces and distances is not less than in other projections of more easy execution; whence these maps are little known in France.

The inequality of the spaces may, however, be diminished, as in the planisphere, by placing the point of view out of the globe; but the distance to which it must be carried, depending on the extent of country contained in the map, will diminish in proportion as this extent becomes smaller, and may be easily calculated by comparing the degree on the margins of the map with that which is in the middle.

It will be easy to persons familiar with geometry and trigonometry, to deduce from section 59 and section 62 the procedures of the calculation in order to construct these maps, and to draw the arcs of the circles which they must contain by points, in referring them to their chords or to their tangents; but these details would here pass the bounds which I have prescribed to this discourse.

67. The most simple of the projections by development, is what is called the *Conical Projection*; it being, in fact, natural to compare a spherical zone to a truncated cone, and thence to construct its development. The parallels become circles, described from a summit of the cone taken as a centre; and the meridians are right lines subjected to pass through that point. It is visible that the result will approach the nearer, in proportion as the map shall embrace less extent in latitude. This projection may vary in different ways; for it may be supposed that the cone is a tangent to the middle parallel of the map, and in consequence, exterior; or that it may be in part inscribed in the sphere, that is to say, formed by the secants of the meridians. In the first case, the map will not be perfectly exact, except on the middle parallel, which will preserve in its development the length which it really possesses on the sphere; but the parallels placed above and beneath will exceed those which on the sphere are correspondent. Murdoch, an English geometrician, has proposed to substitute to the tangent cone, a cone partly inscribed, and determined by this condition, *that the part of its area comprehended in the map, should be equivalent to that of the spherical zone which it represents.*

The whole construction of this kind of map rests on the determination of the summit of the cone, and on the amplitude which the circle serving as its base must assume in its development.

When the cone is tangent to a point *E* of the meridian *AP*, fig. 27, its sides will be obtained in prolonging the tangent of that point till it shall meet the axis *CP*, also prolonged; the line *ER*, being then the side of the cone, and its basis the circle, having *Ee* for its radius. The development is effected by known means, for which the *Complement des Elémens de Geometrie* may be consulted.

To form the degrees of longitude, we must take the three hundred and sixtieth part of the arc, described from the summit *R* as the centre,

with a radius  $RE$ , and which represents the developement of the parallel passing by the point  $E$ , then drawing right lines through the divisions of that arc and the summit of the cone, we shall have the meridians, which corresponding with an arc of a greater radius than that of the parallel, will intercept an angle smaller than a degree. In order to procure the degrees of latitude, we must bear upon one of these meridians, beginning at the point  $E$ , as well above as beneath, parts equal to the developement of the arcs of the terrestrial meridian. In fine, we describe from the point  $P$ , and, by the divisions of the meridian, concentric circles which will represent the parallels.

When the cone ought to be partly inscribed, there is drawn by the points  $A$  and  $F$ , in which it must intersect the meridian, a secant  $AF$ , of which the junction  $R'$ , with the axis  $CP$ , gives the point of concurrence of the right lines which represent the meridians, or the summit of the cone; the right lines  $AR'$  being its side, and  $Aa$  the radius of its base. The space  $AF$ , being that which corresponds with the arc  $AEF$ , ought to be divided like that arc. By this construction we take the chord  $AF$  for the arc  $AEF$ , and the degree of latitude is a little too small, when referred to the degree of longitude on the parallels of the points  $A$  and  $F$ ; but the difference is a trifle when the arc of the meridian has little extent. Nevertheless, a perfect equality may be established between the degrees of latitude on the map, and those of the meridian of the sphere, by assuming, instead of  $AF$ , the developement of the arc  $AEF$ , this circumstance, augmenting the distance of the radii  $Aa$  and  $Ff$  of the parallels, somewhat prolongs the point of concurrence of the lines  $AR'$  and  $CP$ .

The point  $R'$  is obtained in general by reference to similar triangles:

$R'Aa$ ,  $R'Ff$ , which give

$Aa : Ff :: AR' : FR'$

$Aa Ff : Aa :: AR' : FR'$  or  $AF : AR'$ .

When we wish to have regard to the difference between the arc and its chord, we substitute to the line  $AF$  the developed length of the arc  $AEF$ .

68. The astronomer, Dellile (de la Croyère), who was charged with the construction of a general map of the Russian empire, wishing to avoid the inconveniences of the stereographic projection above-mentioned, chose the conical projection: but in order to perfect it, he thought of making the cone enter into the sphere in such a way that it should intersect it according to two parallels, each placed at an equal distance from the middle parallel, and from one of the extreme parallels. The map had, by this mean, on the two parallels just mentioned, the same dimensions as the correspondent part of the sphere; and its total extent differed little from the country to be represented, because the excess at the two extremities of the map was at least compensated in part by the deficiency of the inscribed portion of the cone, with respect to the spherical zone. The map comprising from the fortieth degree of latitude to the seventieth, the middle parallel answered to  $55^\circ$ ; and the parallels common with the spheres were those of  $47^\circ 30'$ , and  $62^\circ 30'$ .

Euler occupied himself with this projection, but he substituted to the determination of the parallels, which must be common with the sphere, that of the point of concurrence of right lines which represent the meridians, and of the angle which they make among themselves in the comprehended degree of longitude. His calculations are supported on the following grounds. 1. That the errors are equal on the southern and northern

northern extremities of the map. 2. That they are also equal to the greatest of those which happen towards the middle parallel. He thence concludes that the point of concurrence of the meridian ought to be placed beyond the pole by a quantity equal to five degrees of latitude, and that the angle of two consecutive meridians ought to be of  $48^{\circ} 44'$ .

He then enquires how much the arcs of the great circles which measure the distances on the globe differ from the right lines which are substituted to them on the map; and he finds that an arc of  $90^{\circ}$  will have on the map a length of  $90^{\circ}$ . 79, of the exactness of less than a hundredth part of its extent.

69. There may be substituted to the conical projection made on the two parallels of the globe, a map which may coincide with three, by describing the extreme parallels and the middle parallels either as right lines, or as concentric circles of a given radius, then by dividing these parallels according to the law of the decrease of degrees of longitude, we shall procure three points for each meridian, which will be represented by the circle drawn through these three points. I shall not dwell on this projection, indicated, I believe, by Bion, in his book on the Use of the Globe; and which, like that of Ptolemy, is only the conical projection disguised.

70. Some geographers have also entertained the idea of developing in a right line all the parallels, and one of the meridians, that passing through the middle of the map; thus the parallels, which are all perpendicular to this meridian, correspond in spaces with the globe; there are then assumed in each the degrees of longitude according to the law of their decrease, that is to say, proportioned to the co-sines of the latitude; in fine, there passes through each series of the corresponding points of the division a curve line, which represents the meridian. From this construction, of which fig. 28. offers an example, it follows that, in respect to its parallels, the map presents throughout dimensions equal to those of the sphere; but the configuration is considerably altered on the sides by the obliquity of the meridians, so that the spherical rectangular quadrilaterals, comprized between the meridians and the parallels, are represented by mixtilinear trapeziums, of which the angles are very unequal, but the areas are in truth equal. This projection has been employed in the Atlas Celestis of Flamsteed; in the four parts of the world by J. B. Nolin; and by several other geographers.

71. Easy to trace, and preserving the relations of superficial extent among the different countries, this projection must have interested geographers; and an easy mean was soon discovered of correcting the defect occasioned by the obliquity of the meridians, by substituting to the right lines representing the parallels, concentric circles described from a point taken in the axis of the map, and passing by the divisions of that meridian, the position of their common centre is fixed according to the curve which it is proper to give them, that they may intersect all the other meridians with as little obliquity as possible. This projection, represented at fig. 29, is the most used in France in general maps, such as those of the four parts of the world; and among others, Delille and D'Anville have employed it. The quadrilaterals, comprized between the parallels and meridians of this projection, are, as in the preceding, equivalent to those on the sphere. In both these, distances cannot be exactly measured, except on the meridians and parallels; and the scales

of such maps only present approximations, which are, however, sufficient for the common purposes of geography.

72. M. Delorgna has proposed a new projection, possessing the property of representing, by equal spaces, countries of equal extent\*. In order to construct the map of a hemisphere, he conceives it to be divided into half-spindles or half-gores, to use the mechanical term, by planes drawn through its axis; and upon the centre of the great circle perpendicular to that axis, he describes another, of which the area shall be equivalent to that of the hemisphere. It is easy to perceive that each half spindle will be represented on the circle in question by a sector, of which the angle will be equal to that formed by the two planes comprehended in the spindle. This is demonstrated, fig. 30, in which  $P$  represents the pole,  $ABD$  the plane of the equator,  $APB$  a half spindle comprized between two meridians and the equator, the circle  $A'B'D'$  is that of which the area is equal to that of the hemisphere  $PABDE$ . It will be discovered, without difficulty, that the radius  $AC$  must, in general, be equal to the chord  $AP$  of the arc of the meridian, comprized between the pole and the plane, which terminates the spherical cup to be represented†.

In the polar projection traced after this principle, the meridians are the radii of the circle which terminates the map; the parallels are circles concentric to the first, described with a radius equal to the chord of the complement of the latitude; the quadrilaterals formed by the meridians and the parallels which terminate a zone, are equal and rectangular as on the sphere; and for this reason the configuration of the countries is not much altered. The distances are not measured immediately by the right line which joins the two points to be compared; but it does not differ much, and the exact proportion may be easily deduced. These properties, which cannot be denied to the projection of M. Delorgna, constitute in his opinion, those essential to a good geographical projection; and, in fact, it must be useful to adopt in common maps this projection; which is very easy to construct when a hemisphere is wanted, terminated by the equator. The author has also pointed out the method of applying it to particular maps; but the drawing becomes complex when there is question of hemispheres terminated by the horizon, because we must then substitute to the meridians and parallels the azimuth circles, and the alimicanters, or those parallel to the horizon of the place assumed for the centre of the map; circles to which we cannot refer the latitudes and longitudes, except by a particular construction or calculation. The inconvenience is the same with regard to hemispheres terminated by the meridian; but, as I have said above, the difficulties of projection are of small account, when advantages will result from it in the daily use of maps.

73. The operations effected in the preceding century, in order to determine the figure of the earth by the measure of the degrees of the meridian, and of the parallels, have given birth to a very important kind of projection, as it is that of the grand map of France by Cassini, the most beautiful geographical work which has been executed to the present day.

\* Principi di Geographia Astronomico-Geometrica, Verona, 1789, 4to.

† In fact, if  $\Pi$  represent the relation of the circumference to the diameter,  $R$  the radius of the sphere,  $h$  the height  $Pc$  of the cup  $Pabd$ , and  $r$  the radius of the equivalent circle, we shall have:

$2 \Pi Rb = \Pi r^2$ , from which we draw  $r^2 = 2 Rb$ ;  $r$  is then the proportional middle between the diameter of the sphere and the segment  $Pc$ .

When the admeasurement of a degree of longitude was undertaken, the difficulty was seen that there is in drawing exactly on the earth a parallel to the equator\*. In fact, if by an alienation, directed by the means of vertical rods, and perpendicular to the meridian of a place, we may determine a series of points, it is evident, that supposing the earth spherical, they would belong to a great circle determined by the vertical plane, drawn perpendicularly to the meridian in question, and which upon the earth answers to the celestial circle, which is called the first vertical. The parallel soon leaves that circle, which it only touches at the point where it intersects the meridian (section 49). In a spheroid, the curve perpendicular to the meridian has a double bend, and the enquiry into its qualities has occupied many geometers†.

The meridian and its perpendiculars being lines which are the most easily drawn by astronomical and geodesic operations, it is to the meridian of the observatory at Paris, and to its perpendiculars, that the points of the map of France are immediately referred, their latitudes and longitudes having only been concluded *à posteriori* and by calculation‡.

In order to form an idea of the manner in which this projection represents terrestrial spaces, it must be observed that the great circles perpendicular to the meridian, supposing the earth spherical, all intersect each other at the poles of that meridian, and, in consequence, converge one towards the other (section 49); while upon the map, where the same meridian is a straight line, they become parallel to each other. It thence follows, that the portions determined by two circles, perpendicular to the meridian, are represented by rectangles of the same length, but larger towards their extremities. Thus the distances and the areas cannot be measured on the great map of France, but, by approximation, and because the extent in longitude is not so considerable, that the convergence of the perpendiculars to the meridian should produce an error of any consequence in the common occasions of geography.

74. The rhumbs of the wind, or the directions indicated by the compass, which have the property of intersecting under the same angle all the meridians which they meet, and which, for this reason, bear on the globe the form of spiral lines, are also represented by curved lines of that kind in all the maps where the meridians are not parallels. Mariners, who direct all their courses by these lines, cannot, therefore, conveniently refer to that kind of map the course which they have made, nor find that which they mean to perform, because of the difficulty of measuring with compasses the arcs of a curve, and have, in consequence, sought a projection in which the meridians should be straight parallel lines.

When there is only occasion to represent very small spaces, or, at least, little extended in latitude; there may be substituted to the spherical zone the development of a cylinder, either inscribed or circumscribed on that zone, and of which the axis may coincide with that of the globe. The meridians which result from sections of the cylinder by planes passing through its axis, are represented by right lines parallel to that axis; the planes of the parallels intersect the cylinder according to circles parallel to its base, and which become right lines in the development. Such is the construction of *flat maps*, of which the invention is

\* Mem. de Cassini, Acad. des Sciences, 1745.

† Mem. de l'Académie des Sciences, année 1733.

‡ See the *Traité analytique des Mouvements apparens des Corps célestes*, by Dufajour, t. II, and the *Description géométrique de la France*, by Cassini.



scribed to Don Henry, Prince of Portugal. Their defects are analogous to those of the conical projection, and even more considerable; for in this there may be given to two parallels their real length with regard to the degrees of latitude, and to one only on the flat maps, namely, to the inferior for the development of the circumscribed cylinder, and to the superior for the development of the inscribed cylinder. We might also employ the cylinder constructed on one of the intermediate parallels, and which would be in part interior and in part exterior to the sphere; but in this way, the extent in longitude would only be exact towards the middle, though the error would be divided betwixt the two extremities. Questions also present themselves here similar to those which Euler has resolved for the conical projection. It is evident, for example, that the parallel which serves as a base to the cylinder, might be placed in such a manner that the area of the development should be equal to that of the spherical zone.

The drawing of these maps may be effected without difficulty, as soon as the position of the terrestrial parallel to be developed is fixed; the only object being to give to the degrees of longitude on that parallel the size which they ought to have, in regard to that assigned to the degree of latitude.

The line  $HG$ , fig. 27, being supposed parallel to the axis  $CP$ , and equal to the development of the arc  $BF$ , will be the meridian of the map, intended to represent the zone comprehended between the parallels of the points  $B$  and  $F$ . The development of the middle parallel, whose radius is  $Ee$ , will give the degrees of longitude. From the same figure may be observed the deficiency of the map on the extreme parallels, since the radius  $Gg$  is smaller than  $Bb$ , and the radius  $Hh$  greater than  $Ff$ .

These maps being only proper for very small parts of the world, are now nearly abandoned; and in the greater part of those to be met with, which are Dutch, there is no scale of longitudes, but only of latitudes and the rhumbs of the wind.

75. The use which mariners make of charts is only to trace exactly in its length and direction the course which they have made, and to determine the distance from different parts of the coasts, and the direction which they must observe to arrive at or to avoid them. It must be remarked, that by the direction to be followed to proceed from one point to another, mariners do not understand the nearest course, which upon a sphere is a circle, for the instrument of which they make use, the compass, does not indicate immediately the nearest course, which intersects the different meridians under unequal angles (section 49).

Mercator and Edward Wright have imagined the projection of *reduced maps*, which perfectly answer the conditions required. The meridians are there straight parallel lines, equidistant, and intersected at right angles by the parallels to the equator; but the intervals which separate them, increase in proportion as we advance towards the poles, in a relation precisely the inverse of the diminution of the degrees of longitude upon a globe. Thence it follows, however, that the distances in longitude, measured upon each parallel, have, with regard to the correspondent distances in latitude, the same relation as on a globe.

The drawing of these maps is attended with no difficulty, except the construction of the scale of latitudes, for which there are tables calculated with great care, even observing the oblate figure of the earth. They bear the name of tables of increasing latitudes, because of the augmentation of the length of each degree of latitude, in proportion as they approach



approach the pole, and I shall indicate in another place the principles of their formation.

It is evident that there must not be fought on the reduced maps neither the relations of the extent of countries, nor the exactness of their configuration, for this projection considerably augments the regions which are placed near the poles, although it share with the stereographic projection, the quality of preserving similitude in very small parts of the globe; but these defects are not attended with inconvenience in charts, which may be regarded as instruments, designed graphically to resolve the principal questions of pilotage, which they do with the greatest exactness and facility.

76. It is to the developements of the *globe* that we must refer the construction of spindles or gores, which are drawn upon paper, in order to cover globes of a moderate size. The surface of the globe is divided into twelve or eighteen parts, according to the size of its diameter, by drawing meridians from  $30^{\circ}$  to  $30^{\circ}$ , or from  $20^{\circ}$  to  $20^{\circ}$ . The space comprehended between two of these meridians having a very small curve in regard to breadth, may be considered as forming part of a cylindrical surface, circumscribed on the sphere, according to the meridian which divides it into two equal parts. This meridian being developed in bearing perpendicularly on each side, according to the law of ordinates, the half-widths of the portions, or parallels comprehended between the meridians, which terminate the spindle, we obtain the form of its entire developement. Sometimes it is truncated at the two extremities, at fifteen or twenty degrees from the poles; and these two zones are drawn apart as if they were flat. This procedure, as may be seen, is only an approximation, and can only serve for the manufacture of globes, as it admits the advantages of engraving in multiplying the number; for the drawing thence obtained, only presenting disjointed portions, cannot serve as a map. For this reason I shall not dwell on the subject, which more properly belongs to the construction of geographical instruments.

77. I have now described the different kinds of maps, and shewn their properties and defects; but it must be observed that the word defect only refers to the common way of considering maps: for if we regard them with Euler and Lagrange\*, as a transformation of co-ordinates, it is always mathematically possible to obtain on a map all the geographical relations which may be required. Only, as we have already observed, some relations are more easily obtained than others.

In fact, the position of different points of the sphere being determined by their latitude and longitude, as the different points of the plane are by two co-ordinates, if we assume on a map lines subjected to a mathematical law, in order to represent these co-ordinates, we shall establish, between the points of the map and those of the sphere, such a relation that we may assign on the map the equation of the lines, which correspond with circles, or even with any curves traced on the sphere, and compare the relative spaces with each other. Reciprocally it may be asked, what ought to be the nature of the co-ordinates of the map, that is, of the lines which represent the meridians and the parallels, in order that the parts of that map may have such and such a relation with those of the sphere? In resolving this last question by the most refined analysis, Euler and Lagrange have determined *a priori* the

\* *Mémoire d'Euler, Acta Acad. Petropol. tom. I. p. 1. Mémoire de Lagrange, Acad. de Berlin, année 1799.*

construction of different kinds of maps, according to the qualities which they ought to possess.

It is unnecessary further to enlarge on this way of viewing maps. In this circumstance, as in most others, necessity has conducted, by particular and indirect paths, to results immediately useful, long before the discovery of the general theory.

78. When we have chosen the projection of the map about to be constructed, and traced the meridians and the parallels according to the law of that projection, the whole is divided into quadrilaterals, in which are inscribed, according to their longitude and their latitude, the points which have thus been defined. This operation becomes the more easy when the meridians and the parallels are restricted; and they are placed in consequence from  $10^{\circ}$  to  $10^{\circ}$ , or from  $5^{\circ}$  to  $5^{\circ}$ , or even each degree, according to the extent of country given in the map. Maps are also distinguished into *general* or *geographical*, as the planispheres, the four parts of the world, the great states; *particular* or *chorographic*; and, in fine, *topographic*, which embrace only very small extent, as the environs of a town for example, and present in detail the villages, hamlets, and, by picturesque means about to be mentioned, the features of the land, as woods, hills, valleys, rivulets, ravines, &c.

It is proper to remark, that in whatever projection, the quadrilaterals formed by the meridians and the parallels near the centre of the map differ so much the less from rectangular parallelograms, as they occupy small space on the map or on the globe; as the map is on a large scale; or as the meridians and parallels are more related to each other. Hence all the projections become blended with a geometrical survey, when the curve of the earth is little sensible throughout their extent; and the distances are then measured by rectilinear scales, which indicate a certain number of itinerary measures used in the country represented, or in that where the map is composed.

When the effects of projection begin to be perceivable, the true way of indicating the size of the map, or its relation with the space represented, is to fix the size of a degree of latitude. It might be wished that there were adopted for the different classes of maps, scales not only forming aliquot parts, but according to the decimal order, as has been appointed by the *Depot de la Guerre*, for the maps to be there executed. By this means, general maps become perfectly connected with particular maps and topographical plans, because the details increase from one class to another by relations easy to seize.

The degree of latitude in the geographical maps being assumed as an unit, that of the chorographical map ought to be represented by one of the numbers 2, 5, or 10, which are exact divisions in the decimal system; and, in like manner, for the degree resulting from the dimensions of the topographic plan, with regard to the degree of the chorographic map.

A collection of maps, either of the world or of a country, is called an Atlas; and the most convenient above all those which serve to facilitate the reading of a work, and not those in the largest form, but those which lead to the details by a gradual succession of maps more and more particular. The eye can rarely embrace without difficulty the considerable space comprized in a sheet of the largest paper, above all, when it must be unrolled, and numerous names are sought; but there are some cases in which the necessity of passing too frequently from one map to another becomes an inconvenience to be shunned, and maps of a large form are then more expedient.

79. After these explanations, it may be conceived that the size of a map may be regulated according to the intention; and that maps ought to

to be constructed in the inverse order of their details; namely the topographical plan reduced from plans taken trigonometrically upon the land; chorographical maps from an assemblage and reduction of topographical plans; and, in fine, geographical maps, properly so called, from an assemblage and reduction of chorographical maps.

I shall not here explain the methods of taking surveys, as they belong to geometry and trigonometry; but shall content myself with shewing how several surveys are united in one topographical plan.

In order that two particular plans may be joined, they must have two common points, or a line of the one may be applied on a line of the same denomination in the other. Then describing this line on the paper designed to receive the topographic plan, so that there may be on each side a space proper to comprize that about to be drawn, it only remains to combine by triangles, either with the points of that line common to the two plans about to be united, or with the points to be placed afterwards, all those comprehended in each plane; and, by constructing equal triangles, in a similar position with regard to the leading line on the topographic plan, the two plans may be united without difficulty. But if they must be reduced, as most commonly happens, triangles must be formed on the topographic plan, like those on the sheets of the survey, so that the sides of the first may be to those of the second in the relation exacted by the reduction.

When the leaves of the survey are marked with the meridian, either true or magnetic, and that this line is the same in all the sheets to be reunited, then the points of each leaf are referred to the meridian, and to a perpendicular drawn on that line, by a point common to two contiguous leaves. The distances of all the points from each of these right lines is measured parallel to the other, and these distances are referred, either such as they are, or reduced to the meridian and perpendicular drawn in the topographic plan, to represent those which are common to the sheets about to be joined. This leads me to speak of the frame divided into squares, employed in reducing all drawings, and which is very convenient for the construction of the details of maps.

The sheets which are to be united are divided into squares by parallel lines, perpendicular to that which is common to the sheets, and the more they are multiplied there is the more facility in judging of the place to be occupied in each square, by the points and circumstances herein contained; and inscribing them with a strict resemblance in the corresponding squares traced on the reduced plan.

This operation is represented in fig. 31. The sheets *ABCD*, *EFGH*, having in common the right lines *CD* and *EF*, are divided into squares, of which the sides are parallel and perpendicular to these right lines; the reduced plan, *abfe*, is divided in the same manner, in regard to the line *cd*, representing the common right line, but the sides of each square are the halves of those of the sheets *ABCD*, *EFGH*, so that the objects marked on these sheets are reduced to half their dimensions, and to a space forming only one quarter of what they occupied at first. To copy the design traced on each of the original leaves, we either imitate by the eye in the squares of the plan *abfe*, what is contained in the correspondent squares of the sheets *ABCD*, *EFGH*, or rather, for more exactness, we take marks or numbers on each of the sides. When we do not wish to draw lines on the drawing to be copied, a very level glass, of very equal transparency, is placed above it, upon which squares are drawn with a glazier's diamond, and two perpendicular lines are made to coincide on those which are to serve for the junction of the sheets or the points which determine it.

80. When a topographical plan is thus formed by the union of detached surveys, in order to pass to chorographic maps, we must not only assemble the plans, but subject them to the projection to be adopted. For this purpose we trace on these plans the meridians and the parallels in right lines, respectively parallel and perpendicular, as these circles are when only extended over a very small portion of terrestrial surface. The correspondent quadrilaterals are also traced on the map to be constructed, but agreeably to the laws of projection; and there only remains to draw in these quadrilaterals what is contained in the squares comprehended between the meridians and the parallels of the topographic plan. When extreme precision is required, as these squares do not strictly correspond with the quadrilaterals, we take, by reference to the sides of the first, the distances of the principal points therein contained; these distances are converted into subdivisions of the degrees of latitude and longitude; and the like are taken from the parallel or meridian contiguous to the corresponding quadrilaterals of the map.

In thus constructing, by small portions, the drawing of a map, the embarrassment is saved which is occasioned by a too wide extension of the compasses; and great errors and their consequences are avoided, as the foundation rests on the sides of the same little square: besides this space being very small, any eye of the least experience immediately perceives the slightest error, which may have been committed in the transposal of the objects.

It may happen that the topographic plan is not marked with the points of the compass, or being marked in the direction of the magnetic needle, we do not know what was the variation of the needle at the time the plan was taken, or reduced, or even on the spot of the operations. This essential object may be supplied, when the plan contains two points of which the respective position is known; as in joining these two points by a right line, we shall find the angle which this right line forms with the meridian, and we may in consequence place it in its due relation to the meridian, or construct by means of a given angle the meridian of the plan.

By the same method may also be determined the scale of a topographical plan, when it has been omitted; for if we know the distance of two points in that plan, we have only to divide into parts, proportioned to the itinerary measures contained in this distance, the right line which joins these two points; which thus becomes the scale of the map, and shews the distance of all the other points from each other.

81. The passage from chorographical maps to a general or geographical map is analogous to that from topographical plans to the chorographic map, by transposing into the quadrilaterals, formed by the meridians and the parallels of the geographical map, what is contained in the correspondent quadrilaterals of the chorographic maps, which are assembled and reduced.

It is above all in this last operation that we perceive the necessity of astronomical observations, in order to fix the position of points at some distance from each other: it may in fact happen, that in the topographical maps, which serve for the construction of the chorographic, there may be errors common to all points of the map, as distances too small or too large in the same direction, and that these errors remain on the chorographic maps; and, in re-uniting the latter upon a general map, the large spaces which it represents will be found too much restricted or dilated without the errors being perceived. But when there is placed directly on the chorographic maps, or at least on the geographic, a cer-

tain number of points, of a latitude and longitude strictly determined, these points will define upon the map certain spaces, in which these points and intermediate details may be laid down; and if this do not happen, the excess or deficiency perceivable, arising from the errors of many maps assembled, is divided among all the points of each, and thence becomes almost insensible, except there be some reason to ascribe the inaccuracy to particular points which must be corrected by the astronomical observations upon others.

To lend more exactness to the copies of their maps, it is upon the copper itself that the geographers of the *Depot de la Marine* execute their graduation; and they even attend to the alteration of dimensions occasioned by the drying of the paper. The procedure followed in these operations may be found in the *Voyage* of the ship *Flora*, drawn up by M. de Fleurieu, and the article *CARTE* of the *Encyclopédie Méthodique*.

82. It is not difficult to perceive that we may, by the means above indicated, transfer upon globes the details marked in chorographic and geographic maps. This operation, which I have mentioned in sect. 46, consists in dividing, by meridians and parallels, the surface of the globe into quadrilaterals so small, that the curve of that surface may be little sensible, and to draw in these quadrilaterals what is contained in the correspondent quadrilaterals of the maps of various parts of the earth.

Such would be the procedure in the construction of maps, if we might in all countries begin with topographic maps, and materials reduced to the same measures, equally accurate and perfectly accordant; but unhappily this is not the case, there being but a small number of countries, and France alone completely, which have been trigonometrically surveyed. As to the other parts, there are only maps constructed after different methods, and upon data which are little exact. It is only in endeavouring to reconcile all those that represent the same country, that we know the degree of confidence that may be placed in each, and that we may approach the real delineation.

After some observations on itinerary measures, M. Lacroix thus proceeds:

When we have established the agreement of the measures, or of the scales employed in different maps, we can construct a graduation to those which are destitute of it, as soon as we know, either immediately, or by the distances of given points, the latitudes and longitudes of whatever point of these maps. We may in consequence compare, by the latitudes and longitudes which they assign to the same places, the maps which comprehend the same regions; and this manner is the more convenient, because it easily permits a reference to the difference of projections in these maps.

The same point being thus placed under different latitudes and longitudes in several maps, in order to procure to these data the degree of confidence which they merit; it must be observed how these maps present other circumstances, as the respective situations with regard to points well determined, such as the capitals of large countries, or of their provinces, the distances of these towns from places of less consequence, the configurations of the shores, of the courses of the rivers, of the chains of mountains, of the high roads, the limits of territory; and to examine in what they agree and in what they differ under each of these relations. The latitudes, more easy to be observed than the longitudes, are generally better established upon maps drawn on the relations of travellers. The common defect of the ancient maps is



considerably to augment all the distances of the places in the direction of east and west; and the error becomes the greater in proportion as the points are distant from the principal meridian, which regulates the longitudes of the others. This fault is very remarkable in the maps of Ptolemy with regard to the differences of longitude between Alexandria and the other towns upon the shores of the Mediterranean. The maps of the Sanfons, of Jaillot, and others, compiled towards the end of the seventeenth century, also extend all the countries in the direction of the longitudes. Such maps still furnish useful materials when the positions are corrected in the direction of east and west, by dividing, proportionally to the distance from the principal meridian, the difference between the longitudes assigned in these maps, and those which result from new determinations.

In his *Companion to a Map of the World*, (London 1794, 4to.) Mr. Arrowsmith offers the following practical remarks on projection\*.

"As the Earth is of a form approaching very near to a globe, or sphere, it is evident that the only map which can truly represent the figure of the various countries, and their relative bearings and distances, must be delineated on the surface of a Globe.

"But as globes of a size proper to exhibit a map sufficiently accurate, and containing all the information that is necessary or desirable, must be very bulky, and very expensive, it is necessary to have more portable and cheaper Maps, executed upon a flat surface; these, since the art of copper-plate printing has been in use, have generally been made upon paper.

"It is obvious, that such a map, wherein is attempted to represent upon a plane surface that which is really spherical, must depart considerably from the truth; especially if it comprehends the whole, or a considerable portion of the world. It has, therefore, been an object which has engaged the attention of the most eminent geographers, to discover a projection (or arrangement, of the proportional parts of the map) which should be liable to the fewest errors.

"The most natural method of representing a sphere upon a plane seems to be to divide it into two equal parts, and inscribe each of them in a circle: but as the equator, and the polar axis, which intersects that circle at right angles, and makes one of the meridians, must be supposed equal in length to the half of the periphery, (of which it is not quite two-thirds), it follows, of course, that the countries delineated upon, or near, these lines, must be reduced to somewhat less than two-thirds of the size of the countries of equal extent, which lie at the extremity of the circle; and that the lines drawn to measure the latitude, which are parallel to each other, or nearly so, must, in order to preserve as nearly as possible their proportional angles at the points of intersection with the meridians, form segments of circles, of which no two are parallel or concentric.

"There may be as many different projections as there are points of view, in which a globe can be seen, but geographers have generally chosen those which represent the poles, at the top and bottom of the map; these, from the delineation of the lines of latitude and longitude, are called the *stereographic*, *orthographic*, and *globular* projections.

"I do not propose to detain the reader with a description of all the projections, some of which are so erroneous (for the purpose of

\* The grammatical errors are partly corrected,



constructing of maps) as to deserve being consigned entirely to oblivion. But as projections of maps form a pleasing and instructive exercise, and indeed indispensably necessary to the right understanding of Geography, by students, I shall describe the manner of constructing the map that accompanies this work. But first hint at the Stereographic Projection. Among the various positions assignable to the eye, there are chiefly two that have been adopted, wherein the eye is placed, either in the points (*D*, fig. 1.) or removed to an infinite distance; and hence this projection is liable to the great error of distorting the form of the countries represented upon it, much more than is necessary. The only advantage is, that the lines of latitude and longitude intersect each other at right angles.

" This being observed by that excellent astronomer, M. de la Hire †, he invented a remedy for the inconvenience, by assigning to the eye a position at the point *O* (fig. 1.), the distance of which, from the globe at *D*, is equal to the right sine of 45 degrees; and hence the right line *CO*, which bisects the quadrant *BC*, also bisects the radius *EC*, and produces the similar triangles *OFG*, and *OEI*; and thus the other parts of the quadrant *BC*, and in like manner of the whole semicircle *ABC*, are represented in the projection nearly proportionable to each other, and to the eye perfectly so.

" This projection, as coming the nearest to a true representation of the globe, is called the Globular Projection: it is equal to the Stereographic in point of facility, and vastly superior to it in point of truth.

*" Geometrical Construction of the Globular Projection.*

" From the centre *C* (fig. 2.) with any radius, as *CB*, describe a circle; draw the diameters *AB*, and 90, 90, (be careful to draw them at perfect right angles,) and divide them into nine equal parts; likewise divide each quadrant into nine equal parts, each of which contains ten degrees; if the scale admits of it, every one of these divisions may be subdivided into degrees: next, to draw the meridians, suppose the meridian 80° W. of Greenwich, we have given the two poles 90, 90, and the point 80 in the equator, or diameter *AB*; describe a circle to pass through the three given points as follows; with the radius 90, set one foot of the compasses on the point 90, and describe the semicircles *XX* and *ZZ*, then remove the compasses to the point 80, on the equator, and describe the arcs 1, 1, and 2, 2; where they intersect the semicircle, make the point, as at 1 and 2, and draw lines from 2 through the point 1, till they intersect the diameter *BA*, continued in *E*, then will *E* be the centre from whence the meridian 90, 80, 90, must be drawn, and will express the meridian of 80° W. longitude from Greenwich. The same radius will draw the meridian expressing 140° W longitude, in like manner. Draw the next meridian with the radius *CB*, set one foot of the compasses in the point *d*, and describe the arcs *aa* and *bb*, then draw lines as before, will give the point *D*, the centre of 90° W. longitude, and so of all the rest.

" The parallels of latitude are drawn in the same manner, with this difference, that the semicircles *XX* and *ZZ* must be drawn from the points *A* and *B*, the extremities of the equator.

\* " The great geographer D'Anville, has constructed his map of the World upon this projection, adapting it to Cassini's system of the figure of the Earth, which makes the polar diameter longer than the equatorial.

† Hist. Acad. Scienc. 1702.

"In the manner above described, with great labour and exactness, I drew all the meridians and parallels of latitude to every degree on two hemispheres, which laid the foundation of the map now before us,

"We shall now drop a few hints on the advantage and disadvantage of Mercator's Projection.

"A method has been found to obviate some of the difficulties attending all the circular projections by one, which, from the person who first used it, (though not the inventor,) is called Mercator's Projection. In this there are none but right lines; all the meridians are equidistant, and continue so through the whole extent; but, on the other hand, in order to obtain the true bearing, so that the compass may be applied to the map (or chart) for the purpose of navigation, the spaces between the parallels of latitude, (which in truth are equal, or nearly so,) are made to increase as they recede from the equator in a proportion which, in the high latitudes, become prodigiously great.

"The great advantages peculiar to this projection are, that every place drawn upon it retains its true bearing with respect to all other places; the distances may be measured with the nicest exactness by proper scales, and all the lines drawn upon it are right lines. For these reasons, it is the only projection in drawing maps or charts for the use of navigators.

"Its only disadvantage is, that the countries in high latitudes are of necessity increased beyond their just size to a monstrous degree.

"Thus it appears, from this short view of three of the best modes of projecting maps of the World upon a plane surface, that each of those which have been more particularly described, is attended with advantages and disadvantages peculiar to itself; it is obvious, that the only means to acquire a just idea of the various countries upon such a surface, is by a comparison of two maps, one laid down on the Mercator's Projection, and the other upon the best of the Circular Projections."

83. But the itinerary measures adopted by the civilized nations of Europe, where science has been cultivated, are in a great measure free from this difficulty, as most of them have been repeatedly compared either with the degree of the meridian, or with each other by means of their respective standards; for instance, the English, and the nautical miles, the degree of the meridian contains 69.2 of the first, and 60 of the second: the English foot is now known to be equal to 0.9384 of the French foot, or 11 inches 3.1 lines; and the English yard of three feet is equal to 33 inches 9.3 lines perch measure.

By similar comparisons and reductions the measures used in one country may be estimated in those of another; but it often happens that in the same kingdom there are local measures in particular provinces which are but little known, and which differ considerably from the general standard. The difficulty of comparing these often gives rise to great confusion; in France, for example; nothing can differ more than the league of one province from that of another: the perch likewise used by artificers is equally uncertain, varying from 18 to 22 feet.

84. It was to remedy this inconvenience that the French government resolved to adopt a new standard measure, which, being founded in nature, should be for ever independent of accidental circumstances. The METRE is the ten millionth part of the quadrant of the meridian, and the various subdivisions and multiples of this standard unity will be given in the subjoined tables.

85. The laborious operations recently concluded for the purpose of establishing the metrical system, have not only been the occasion of a great number of accurate comparisons being made of different modern measures, but have likewise induced many learned men to investigate the relation of these measures with those of the ancients. To succeed in this attempt, we have only the traditionary relations of ancient writers of the measures of edifices, mostly either defaced, or entirely destroyed by time; and of the distances of cities from each other, which likewise have either disappeared from the surface of the earth, or whose position is still a subject of doubt and discussion. If we attempt to compute these distances from the writings of geographers, as Hipparchus, Ptolemy, and Strabo, a great difficulty arises from their using the same word "*stadium*," to express different measures. M. Gosselin, for example, has shewn that Ptolemy uses occasionally both the stadium of 500 and 700 to a degree.

The expedition of the French into Egypt, during the years 6 and 7 (1799, 1800), by procuring us very exact measurements of some of the most ancient and best preserved monuments of former ages, will afford us great assistance in these investigations. M. Girard has already presented a memoir on this subject, chiefly relating to the *cubit* of the Nilometer found in the island Elephantis, in Upper Egypt, an ancient edifice, formerly built to measure the increase of the Nile, a circumstance of great importance in a country whose fertility depends entirely upon it. It would be foreign to the design of this introduction to enter farther into this difficult subject: several very valuable works have been written on this subject, to which the reader is referred, vid. *Traité des Mesures Itinéraires des Anciens*, by D'Anville; *Metrologie*, by Pauetou; *Traité des Mesures*, by Romé de Lille, &c. &c.

86. When different maps are to be compared, if the relation of their respective measures are known, a graduated scale may be constructed for them, provided the latitude and longitude of some point be known. And different maps of the same kingdom may be examined by observing the latitudes and longitudes which are assigned to the same place; and this method has the advantage of not requiring any attention to be paid to the different projections which may have been employed for their construction.

We may judge of the accuracy of different maps by observing the degree of discordance that prevails in the latitudes and longitudes; and to determine which merits the preference, other circumstances may be examined, such as the distances of places well known, as the capitals of kingdoms and provinces, the courses of rivers, the configuration of their shores, chains of mountains, high roads, boundaries of territory, &c.; and by observing in what they agree, and in what they differ, we may form a judgment of their comparative accuracy. The latitude of a place being more easily determined than its longitude, is usually the most exactly placed in maps constructed from the relation and observation of travellers. The most common defect in ancient maps is to assign too great a distance to places situated east and west of each other; and this error is the greater as the places in question are farther removed from the principal meridian. This is particularly remarkable in the charts of Ptolemy, in which the longitudes of the places on the shores of the Mediterranean, and remote from Egypt, are made much too great. The charts of Janfon, Jaillet, and others, constructed about the end of the 17th century, have likewise the same defect. These charts afford, nevertheless, useful materials, when the longitudes are

are proportionably corrected, by comparing the extreme error with modern observations. When no reason appears why any preference should be given to one chart over another, a new one may be constructed, by taking the mean of all the longitudes and latitudes according to the usual arithmetical rule. With these new data, the general outline is to be filled up according to the rule given, No. 80 and 81.

87. In comparing smaller maps by means of the distances between different points (and which distances have perhaps been the foundation of the map), it is useful to assume two points, whose distance may serve as a standard to which the rest may be compared. In comparing the position of a third point with those on two different maps, two triangles should be constructed on the same base, and the difference of their summits will shew the discordance between them; and the middle point should be chosen as the mean between them. Three comparisons of this kind will give a triangle, and several a polygon; and the mean position will be found by taking the centre of gravity of the figure thus formed. The theory of this operation will easily be understood by those conversant in the principles of statics; I shall only add, that the centre of gravity of a triangle is found by drawing lines from each angle to the point bisecting the opposite side; and this rule will suffice for three determinations.

When, by this method, the distance of one point is determined from two others, supposed given in position, its longitude and latitude may be determined, and the place transferred on the new chart, whatever may be its projection. But if the chart includes but a very small space, the same operation may be more conveniently performed, by employing a *treillis* or scale of cross lines to lay off on the new chart the mean of the different determinations.

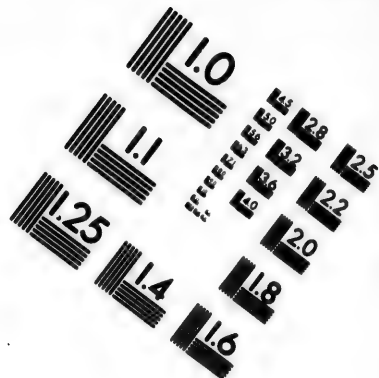
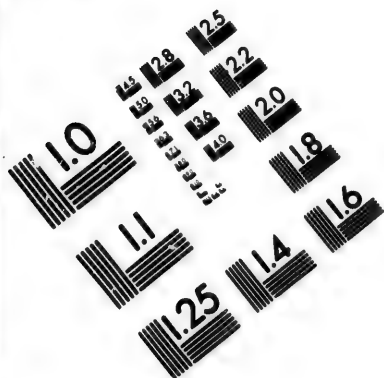
It is not my intention to enumerate all the methods employed by geographers in the construction of maps from the different materials that occasionally come into their possession; enough has been said to enable the reader, if acquainted with the geometrical principles of the science, to apply them advantageously to practice, when an opportunity occurs, having sufficiently explained the nature and object of these various operations.

I have supposed materials to have been collected, not from trigonometrical surveys, but the observations and relations of travellers and historians: That nothing essential may be omitted, I shall add the method of reducing these materials into the form of a chart, particularly as it is from such relations that maps relating to ancient geography are constructed.

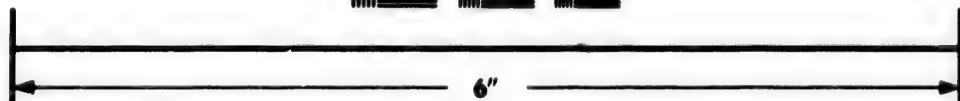
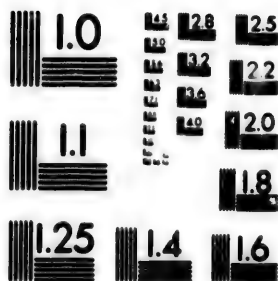
88. But, to proceed methodically, we should first examine the nature of the data that can be collected from the relation of travellers and historians: these are of two kinds, the one comprehends the tradition of certain celestial phenomena, from which at least the latitude can be calculated, as the length of the solstitial days, the lengths of the shadows of gnomons; the other is the statement of the length of the road between the two places, determined with a greater or less degree of precision, and sometimes the indication of the direction or bearing of one place relative to the meridian of the first. It will be shewn, that this latter method is that which is adopted by mariners, and, if exact, would be sufficient to give the situation of a place with precision.

Among the data of the first class may be cited the remark attributed to Pytheas, a traveller who lived, it is supposed, about 120 years before the Christian era, in the Greek colony established at Marseilles.





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A close-up, black and white photograph of a portion of a document, likely a ledger or table. The image is oriented vertically, showing a ruler on the left side with markings for inches and centimeters. To the right of the ruler, there is a table with several rows of text and numbers. The text is partially cut off at the top and bottom edges of the frame. The overall image is high-contrast and grainy, typical of a photocopy or a scan of a physical document.

He relates, that in the Isle of Thule, situated to the north of the Britannie isles, and the most northern land known at that time, there was no night at the solstice of summer, nor no day on the solstice of winter. This phenomenon places the island, mentioned by Pytheas, under the polar circle, and can only agree with Iceland; and this seems confirmed by what the ancients relate of the magnitude of this island; nevertheless, some difference of opinion still subsists on this subject, partly because of the great distance of the place from the Britannie islands, and the difficult navigation incidental to so inclement a climate; and partly because later authors than Pytheas have spoken differently of it. Stephanus of Byzantium, for example, describes the day as 20 hours long in summer, and four hours long in winter; this would bring it much nearer, and within a few degrees of the Britannie isles. But the account given of it by *Procopius, the Greek historian*, would make us imagine it to have been still farther north. Without entering into this controversy, I shall only observe, that the knowledge of geography has varied so much in different ages, that some countries have become unknown and forgot, while new ones have been discovered; so that the name of *Thule* may really have been given to very different places.

If we prefer the authority of Pytheas, whose description seems very exact, and moreover relates to a phenomenon which must have appeared very remarkable to the southern inhabitants of Europe, we must suppose the place under the polar circle; and to deduce the latitude, we must take into consideration the diminution of the ecliptic since the time this author lived. Admitting the change to be  $50''$  for every century, the total change for about twenty-one centuries will be  $17^{\circ} 30''$ ; the present obliquity being  $23^{\circ} 28'$ , in the time of Pytheas it must have been  $23^{\circ} 45' 30''$ . Hipparchus, who lived near two centuries later than Pytheas, supposed it  $23^{\circ} 51' 20''$ , and whichever of these determinations we adopt, the Thule of Pytheas would be under the parallel of  $66^{\circ}$ .

But if we adopt the length of the solstitial day, as given by Stephanus of Byzantium, we shall only have  $63^{\circ}$  for the latitude of Thule.

The same Pytheas relates, that at Marseilles a gnomon divided into 120 parts, projected at the summer solstice a shadow whose length was equal to  $41\frac{1}{3}$  of these parts. By constructing a right angled triangle whose sides are in this ratio, it appears that the altitude of the sun must have been  $71^{\circ}$ ; if from this the obliquity of the ecliptic as established by Hipparchus at  $24^{\circ}$ , in round numbers be taken, there will remain  $47^{\circ}$  for the height of the equator at Marseilles, or  $43^{\circ}$  of latitude.

Sometimes the Greek astronomers have indicated the height of the sun in cubits each of  $2^{\circ}$ . According to Hipparchus, the sun's altitude at the winter's solstice was only nine cubits on the parallel of latitude passing through the mouth of the Borysthenes (at present the Dnieper). This supposes the altitude of the sun  $18^{\circ}$ , and the latitude computed from this is  $48^{\circ}$ , which differs but little from modern determinations.

It was from this kind of data that Hipparchus divided the whole distance from north to south of the known world into parallels. The table of climates ( $N^{\circ} 20$ ) calculated by this astronomer, indicated the principal celestial phenomena for every degree of latitude, and thereby enabled attentive travellers to verify or improve the state of geographical knowledge.

89. It is not now exactly known in what manner Eratosthenes, and afterwards Hipparchus, settled their longitudes, the works of these early

early geographers not having been transmitted to us; it is supposed, however, that it was by the means of itinerary distances, which was very applicable to places in the Mediterranean, and along its coasts, which lay in an east and west direction.

With respect to places not so conveniently situated, they combined these distances into a system of triangles, which method I shall exemplify by a case taken from the work of M. Gosselin, entitled, "*Recherches sur la Géographie systématique et positive des Anciens.*"

From the defile called Caspiæ Pylæ to Babylon, Hipparchus reckons 6,700 stadia. From Babylon to Suza 3,400, in the direction of a parallel to the equator upon which he supposed both these cities to be situated; and lastly from Suza to the Caspiæ Pylæ 4,900; these three places form the triangle *B, S, P*, (fig. 32.) the initials of the places represented. If a perpendicular *PA* be drawn from the summit *P* of this triangle to the opposite side *BS*, which represents the parallel passing through Babylon and Suza, the length of this perpendicular 4,705 stadia, will be the difference of latitude between the Caspiæ Pylæ and Suza. This distance, estimated in degrees, (700 stadia to a degree) gives  $6^{\circ} 43'$ , for the difference of latitude, and that of Suza being fixed by Hipparchus at  $33^{\circ} 34'$ , the latitude of the Caspiæ Pylæ would be  $40^{\circ} 17'$ .

The distance *SA*, contained between the extremity of the perpendicular *PA* and Suza, 1,370 stadia, gives the distance between the two places measured from east to west.

To conclude with some degree of precision the difference of longitude expressed in degrees, it would be requisite to attend to the diminution of the degrees between these parallels, and which are intersected by the oblique line joining these two points; but this correction would be very little in comparison of the error which more modern observations have detected in these ancient determinations, and which arises, not only from the curvature of the earth being neglected, but because the itinerary measures were estimated in a very vague and inaccurate manner, by days journeys either by land and sea, in which were reckoned the different windings of the road and the sinuosity of the shore. It is only therefore, by a very careful investigation of different authorities and by a judicious choice of different data, that the errors of one can be rectified by those of another. The circumstance on which critics place their greatest reliance, is the probability that the mean of a great number of these determinations will not differ widely from the truth, since it generally happens that when an error has been found in one direction, the fear of falling into the same, produces another in an opposite direction, and from these considerations results tolerably accurate are sometimes obtained from very defective materials.

But it is the detail of the particular configuration of each country that has been of the greatest use in improving our knowledge of ancient geography, for these local circumstances have been usually very faithfully described, not only by historians but by poets. Our modern geographers make the ancient map which they propose to construct subservient to the configuration of the country as recently determined, and by this means are able to explain the meaning of many passages in ancient authors, and to determine the position of places which they have described. It is thus that the *Travels of M. Choiseul Gouvier into Greece*, and *M. Chevalier to the Plains of Troy*, have afforded very valuable documents to *M. Barbier du Bocage*, for the construction of his atlas to the *Travels of Anacharsis*; and it is well

well known what utility D'Anville derived in constructing his maps of Italy and Greece from a judicious comparison of ancient and modern relations.

Historians who often had nothing in view but to relate the marches of armies, only indicate the route by the succession of places, without noticing the turnings and change of direction. In this manner military maps were sometimes constructed; for example, the one found in 1547 among the papers of Peutinger. This chart, though 22 feet long, was only one foot broad; it appears to have been constructed in the time of Theodosius the Great; it embraces all the extent of the then known world, but diminished in breadth, so as to appear absurd, till we reflect that it is only intended to indicate the distances of places, and not their relative positions, or the configuration of the country, which could not have been preserved in this form, which was suited to be rolled up in a small space; yet this map is extremely valuable, since the distances of those places which are known appear to be very exact, from which we conclude, that those which are now destroyed or forgotten are so likewise.

It was by a similar comparison, and from a knowledge of modern geography, that M. Gosselin, in the work above-mentioned, fixed the extent of the navigation of the Carthaginian Hanno, and the historian Polybius along the coasts of Africa.

By these methods the study of ancient geography has been reduced to a system, by which the identity of ancient cities and places is established with those more recently discovered. And this is accomplished either by the similitude of the country with that formerly described, its relative situation with respect to others that are known, and sometimes by ancient monuments and traditions; and lastly, by the similarity of name, conformity of language, and by the manners of the inhabitants. This method also is sometimes applied to the long voyages undertaken in the 16th century, the tradition of which is often extremely confused, the narrative of them being usually drawn up in too confused a manner to afford the requisite data for the determination of the situation of the different places which were visited by these early navigators.

91. It has already been remarked, (N° 88.) that besides the itinerary or linear distance of a place, it is necessary also to have its direction. Before the discovery of the compass this could not be very accurately ascertained. The ancient navigators, unprovided with instruments, directed their course by the circumpolar stars, chiefly by those in the Great Bear, our present polar star being  $12^{\circ}$  from the pole in the time of Pytheas. They divided the horizon into a few subdivisions, often determined by local circumstances, as appears by the names they gave to the winds.

The Greeks at first gave only four names to the winds, corresponding to the four points, north, south, east and west, called afterwards the cardinal points. These names were

|          |        |        |
|----------|--------|--------|
| Eurus    | or the | East   |
| Zephyrus | -      | West   |
| Boreas   | -      | North  |
| Notus    | -      | South. |

They afterwards added four others, corresponding to the four points in which the sun rose and set at the winter and summer solstices. Seneca in his *Questiones Naturales*, has given their names.

|               |            |                                        |
|---------------|------------|----------------------------------------|
| Subfolanus or | Apeliotes. | East wind.                             |
| Vulturinus.   | Eurus.     | Winter rising.                         |
| Euronotus.    |            | Between this last and the fourth.      |
| Auster.       | Notus.     | South wind.                            |
| Lebonotus.    |            | Between the fourth and winter setting. |
| Africus.      | Lebs.      | Winter setting.                        |
| Favonius.     | Zephyrus.  | West.                                  |
| Corus.        | Argestes.  | Summer setting.                        |
|               | Thrafcias. | Between this and the north.            |
| Septentrio.   | Aparetias. | North.                                 |
| Aquilo.       | Mefes.     | Between this and summer rising.        |
|               | Cæceas.    | Summer rising.                         |

From this table are derived twelve divisions, which if equal would contain each  $30^\circ$ , but the rising and setting points determined by the folstitial amplitudes of the sun, depend on the obliquity of the ecliptic and the latitude of the place. This method of subdivision was therefore too local and partial to continue long in general use.

Vitruvius has transmitted a division of the horizon into twenty-four parts of  $15^\circ$  degrees each, and the names assigned to each wind are as follows:

|              |             |             |             |
|--------------|-------------|-------------|-------------|
| Solanus.     | East wind.  | Favonius.   | West wind.  |
| Ornithiz.    |             | Etefiz.     |             |
| Cæcias.      |             | Arcius.     |             |
| Eurus.       |             | Caurus.     |             |
| Vulturinus.  |             | Corus.      |             |
| Euronotus.   |             | Thrafcias.  |             |
| Austra.      | South wind. | Septentrio. | North wind. |
| Altanus.     |             | Gallicus.   |             |
| Lebonotus.   |             | Supernas.   |             |
| Africus.     |             | Aquilo.     |             |
| Subvesperus. |             | Boreas.     |             |
| Argestes.    |             | Carlas.     |             |

By this distribution, it is easy to assign the angle which any particular wind makes with the meridian; for example the direction of the wind Boreas being the fourth after the north, necessarily makes an angle of  $60^\circ$  with the meridian line.

Modern navigators divide the horizon into thirty-two parts or rhumbs, each quadrant containing eight. In the ocean these are denominated after the cardinal points, but in the Mediterranean they are known most commonly by particular names.

The following table will shew in what manner these correspond with each other. It begins from the east that it may the more easily be compared with the preceding.

| IN THE OCEAN. |   | IN THE MEDITERRANEAN.       |
|---------------|---|-----------------------------|
| EAST.         | - | LEVANTE.                    |
| E. by S.      | - | Quarta di levante firocco.  |
| E.S.E.        | - | Levante firocco.            |
| S.E. by E.    | - | Quarta di firocco levante.  |
| S.E.          | - | Sirocco.                    |
| S.E. by S.    | - | Quarta di firocco ostro.    |
| S.S.E.        | - | Ostro firocco.              |
| S. by E.      | - | Quarta dell' ostro firocco. |

IN THE OCEAN.

SOUTH. -  
S. by W. -  
S.S.W. -  
S. W. by S. -  
S.W. -  
S. W. by W. -  
W.S.W. -  
W. by S. -  
WEST. -  
W. by N. -  
W.N.W. -  
N.W. by W. -  
N.W. -  
N.W. by N. -  
N.N.W. -  
N. by W. -  
NORTH. -  
N. by E. -  
N.N.E. -  
N.E. by N. -  
N.E. -  
N.E. by E. -  
E.N.E. -  
E. by N. -

IN THE MEDITERRANEAN.

OSTRO.  
Quarta dell ostro garbino.  
Ostro garbino.  
Quarta di garbino ostro.  
GARBINO.  
Quarta di garbino ponente.  
Ponente garbino.  
Quarta di ponente garbino.  
PONENTE.  
Quarta di ponente maestro.  
Ponente maestro.  
Quarta di maestro ponente.  
MAESTRO.  
Quarta di maestro tramontana.  
Tramontana maestro.  
Quarta di tramontana maestro.  
TRAMONTANA.  
Quarta di tramontana greco.  
Tramontana greco.  
Quarta di greco tramontana.  
GRECO.  
Quarta di greco levante.  
Greco levante.  
Quarta di levante greco.

Each of these divisions containing  $\frac{1}{4}$  of the whole circumference, is equal to  $11^{\circ} 15'$ ; therefore if a ship sails N.E. by E., this rhumb being the fifth from the N., is equal to five times  $11^{\circ} 15'$ , or  $56^{\circ} 15'$ ; in like manner all the other angles are attained, only care must be taken to observe if the direction is east or west of the meridian line. By reckoning either from the N. or S. point, the obtuse angles which the above method introduces are avoided. S.W. by S. for example being the third reckoning from S. towards W. corresponding to three times  $11^{\circ} 15'$  or  $33^{\circ} 45'$  from S. towards W. Notwithstanding the facility of this reduction, it would have been preferable to have divided each quadrant contained by the cardinal points into  $90^{\circ}$  each, according to the usual division of the circle; and which method is sometimes employed by navigators who aim at great precision. In general it may be observed that divisions of any kind indicate the state of the science at the period of their establishment. The first mariners who used a compass, no doubt thought they had done a great deal in dividing the circle into thirty-two parts. They chose this number probably from the facility with which compasses could be divided by continual subdivisions, as they were at that time constructed by the pilots themselves. The assemblage of these divisions in their well known form is called the "*mariner's card*."

92. If the length and direction of a line commencing at a given point be known, the point at which this line terminates is also easily found.

If its length be not considerable, the curvature of the earth may be disregarded, and the meridians may be considered as parallel, and the rhumb lines as straight lines; and to trace upon a plane surface the tract described in this case, it will only require a line to be drawn, making an angle with the meridian corresponding to the rhumb-line; and to set off from the scale a portion of this line equal to the distance described, the point thus found is the point arrived at. Or it may be calculated, by drawing a perpendicular from one extremity of the above line, to the



meridian passing through the other extremity; a right-angled triangle will thus be formed, in which the distance between the point of departure and the perpendicular intercepted on the meridian will give the difference of latitude in linear measure, and which may afterwards be reduced to degrees of the meridian. In the same manner the perpendicular will correspond with the difference of longitude of the two points, and may be reduced by a similar process. But in making this reduction it is advisable to calculate the value of the degree of longitude for the mean latitude between the two points, in preference to that of the point of departure. This operation is equivalent to dividing the degree of meridian by the cosine of the latitude.

Another question sometimes occurs, which is, when the direction of the tract is not known, but is to be determined by the latitude of the point arrived at. The construction of the chart consists in drawing the two parallels, and with the point of departure as a centre, describing a circle with the radius equal to the tract run over, the point of intersection of the circle and the second parallel is the point required.

To determine this point by calculation, a right-angled triangle is formed, as in the last example, the difference of latitude is to be converted into linear measure. Then one side and the hypotenuse being given, the other side or perpendicular, which is the difference of longitude, may be found as above.

93. When the tract described is of such a length that it becomes necessary to attend to the curvature of the earth, the above problems (as far as they relate to the reduction of the east and west lines into degrees of longitude) require an operation which can only be commodiously effected either on a reduced chart, or by a calculation, the nature of which is now to be described. Since the rhumb-lines intersect all the meridians at the same angle, let us imagine the tract described to be divided into a number of smaller portions considered as strait lines, then through the extremities of these portions let meridians and parallels be drawn, each of these portions will thus become the hypotenuse of a right-angled triangle, whose sides will be the difference of latitude and longitude expressed in linear measure. Let one of these be represented by the triangle  $ABC$  (fig. 33.); by trigonometry  $AB : AC :: 1 : \cos. BAC$  hence  $AC = AB. \cos. BAC$ . but the angle  $BAC$  being constant for all the meridians intersected by the course, the difference of latitude proper for each small triangle will have the same factor, and the sum of all these differences, or the total difference of latitude of the extreme points will be equal to the sum of the portions, or the total length of the tract described, multiplied by the cosine of the angle which it makes with the meridian, as in the preceding case. The reduction into degrees is effected in the same manner.

The difference of longitude corresponding to  $BC$  may be found by means of the difference of latitude  $AC$ . for  $AC : BC :: 1 : \tan. BAC$ , hence

$$BC = AC. \tan. BAC.$$

But to know this difference in parts of the equator we must refer to what has been said, ( $N^{\circ} 48.$ ) where it is shewn that if  $L$  represents the latitude of the parallel passing through the point  $A$  then

$B$  : to the corresponding arc of the equator ::  $\cos. L : 1$ . and consequently this arc is

equal  $\frac{B}{\cos. L}$ , for  $BC$  substitute its value found as above, and, The

difference

difference of longitude  $= \frac{Ac}{\cos. L} \times \text{tang. } BAC$ . The sum therefore of all these elementary differences of longitude will be obtained by multiplying the sum of all the values of the variable factor  $\frac{Ac}{\cos. L}$  by the constant factor  $\text{tang. } BAC$ .

If these portions be taken such that the difference  $AC$  may equal  $1'$  of the meridian or equator, then since  $\frac{1}{\cos. L} = \secant L$ , the above expression becomes *difference of longitude*  $= 1' \times \sec. L. \text{ tang. } BAC$ , and the sum of the factors  $1' \times \sec. L$  will be obtained by adding all the secants for each minute, for the whole are between the point of departure and that of arrival.

This method, however, is only an approximation. Since even the arc of a minute is not rigorously a straight line, it may be made more exact by taking the secants for every 10th, or even for every single second; this process would be extremely tedious, but the integral calculus gives the exact expression for this sum to difference of latitude, or intercepted arc of the meridian being supposed divided into an infinite number of portions. It is in this manner that the values of all possible arcs have been calculated in the tables of meridional parts mentioned above.

The ratio of the degree of latitude to the degree of longitude being as 1 to  $\cos. \text{latitude}$ , to preserve this ratio when the meridians are supposed parallel, it is necessary that,

$1'$  of the merid. :  $1'$  of the parallel :: 1 :  $\cos. \text{lat.}$  or  $1'$  of the merid.  $= \frac{1' \text{ of the parallel}}{\cos. L} = 1' \text{ of the par.} \times \sec. L$ .

If we calculate therefore from  $0^\circ$  the successive minutes of the meridian, taking those of the parallel equal to the equator, we shall be led to each parallel by the sum of the secants, calculated from minute to minute, from  $0^\circ$  to that parallel.

The exact method of calculating these tables is derived from the preceding consideration, as likewise the construction of a traverse upon a reduced chart. But for the object I have in view the two following rules are to be observed.

For the first question.—After having obtained, as in  $N^\circ 92$  the latitude of the point of arrival, take in the table of meridional parts, the difference of the numbers corresponding to the two latitudes, and multiply it by the tangent of the angle which the course or rhumb-line makes with the meridian, and the result will be the difference of longitude expressed in minutes of a degree.

In the second question, the angle which the rhumb-line makes with the meridian is not given, but it may be deduced from the difference of latitude reduced into leagues, and by the distance described; with these data the difference of longitude may be computed as above.

For example, suppose a vessel sets out from a point, situated in latitude  $42^\circ 3'$  north, and has described 252 leagues N.E. by E. which is equivalent to an angle of  $56^\circ 15'$  with the meridian, it will be found that the difference of latitude, reckoned on the line N. and S. is 140 leagues, or  $7^\circ$  towards the N. This difference being of the same denomination, must be added to the latitude of the point of departure, which gives  $49^\circ 3'$  for the latitude of the point of arrival.

The number is then to be taken from a table of meridional parts, corresponding to  $49^{\circ} 3'$ ,

$$\begin{array}{rcl} \text{viz.} & & 3386,7 \\ \text{then for } 42^{\circ} 3' & = & 2785,8 \end{array}$$

the difference - - - 600,9 the log. of which is to be added to the tangent of the angle  $56^{\circ} 15'$ , and the result, which answers to 899', or  $14^{\circ} 59'$ , as the difference of longitude towards the east.

94. These rules being founded on strict geometrical principles would be perfectly exact, if the data were so likewise, but the direction of the tract described as given by the compass, is subject to much uncertainty, from causes well known to mariners, such as the variation of the needle, not always easy to determine, and the drift or lee way which a ship makes by the action of a contrary or side wind, which prevents it from following exactly the direction of the keel. These circumstances were very imperfectly attended to by navigators till within the last century. The measure of the distance actually described is also subject to considerable uncertainty.

The ancients often express it by the numbers of days' march or navigation, and it is frequently a question of great difficulty to ascertain the value of these quantities, which vary in a variety of ways, and in different ages, according to linear measures in use at the time, to the particular region, the manner of travelling, and the size of the vessel.

By duly considering all these circumstances we obtain a mean value, which is to be depended on, in proportion to the number of facts from which it is derived. By attending to the forms of the various inflections of the roads in countries intersected by mountains, or by the course of considerable rivers, and likewise in level plains, general results may be obtained concerning the increase of length in the roads, produced by the interposition of these obstacles, and by which the distance must therefore be diminished, to obtain the result on a straight line.

To estimate the distance passed over by a ship, it is requisite to know the effect of currents, which act at the same time on the vessel, and on the piece of wood or log which sailors throw into the sea, considering it as a fixed point, and reckon how far they recede from it in a given time, usually half a minute a rope divided into knots, the distance of which is the hundred and twentieth part of a nautical mile, because half a minute is the hundred and twentieth part of an hour, as used for this purpose.

But if the vessel and the piece of wood are both acted on by the same current, the distance of the ship from the log will only shew the relative velocity of the ship with regard to the current, and the velocity which this current impresses at the same time on the vessel and the log, still remains to be determined. It is partly from thence that the difference, which is often very considerable, arises between the situation of the ship, as estimated by the pilot, and that where she really is.

From thence also it happens that the countries discovered by Magellan, Mendana and Quiros, have been so ill defined with regard to their longitude, that it was with difficulty that they were again found. The Solomon islands, remarkable from their extent, and the circumstantial description of them left us by Mendana who discovered them, have varied in situation almost through the circumference of the globe. None of the navigators who took this route after him, beginning with Quiros who had accompanied him, and who followed him immediately, could find them. At length their existence even became doubtful, but M. Buache has at length proved that they were the Terra des Arfacides

and the adjacent islands discovered by M. M. de Bougainville and de Surville.

Their latitude was found to be correct, but the currents that run from east to west in the Southern ocean had very much increased the distance traversed by Mendana, of which he was not conscious; so that he imagined himself to be 1500 Spanish leagues, or 1700 French nautical leagues from the coast of Peru, when he was in reality 2400 leagues.

The voyages round the world, particularly those of late years, in which the frequent observation of the longitude has enabled the navigators to make a comparison between several correct points of the course and those obtained by estimation, have procured many very important data concerning the velocity of currents in different parts of the ocean.

These data are collected and carefully discussed in the *Voyage du Capitaine Marchand*, published by M. de Fleurieu.

The same work contains an hydrographical nomenclature of seas, gulphs, bays, &c. which it would be very convenient to adopt in geography and in charts.

95. When a result has been adopted for the value of the distances in a straight line, the application of the process described in No 92. will almost always suffice to construct the geometrical plan, from the data deduced from historical or itinerary narrative; for these distances can only be correct in proportion as they are small, in which case the projection (No. 78.) may be neglected; and when they are large their uncertainty often surpasses the reductions which the laws of projection require, which therefore may be always omitted in the construction of this species of chart, recollecting, however, to take them into consideration when these materials (No. 81.) are applied to geographical charts, subject to astronomical projections and observations.

By the perusal of what has preceded, we may judge of the extent and variety of knowledge which a geographer should possess, of the course of reading which he should assiduously pursue, the notes which he should collect, and moreover discuss and class according to the rules of sound criticism.

I have been obliged in an Introduction to confine myself to general ideas on the subject, and to refer for particular examples to individual treatises. It is in the writings of Delisle, D'Anville, of Buache, and of Gosselin, that the elements requisite for geographical combination must be sought.

At the end of the voyage in the interior of Africa by Mungo Park, we find notes by the learned Major Rennell, which present a collection of discussions, as well adapted to render intelligible the nature and object of critical geography, as they are important in defining the state of our knowledge of the interior of Africa.

96. Having briefly exposed the principles of the construction of charts, it remains to speak of their uses.

Of these the greater part are obvious, or only require the knowledge of a few marks easily recognized, and which formerly were explained in a reference placed at one side of the map.

These signs mark the situations of places, and are modified according to the importance of the places, and the rank which they hold in the civil, military, or ecclesiastical government of the country.

The very small circle which is adjacent or attached to each of these signs, must always be observed, because it is the centre of this circle which marks the position of the place.

By taking its distance from the nearest parallel of latitude in the direction of the meridian, and measuring this distance on the graduated meridian, we get the latitude of the place; its longitude is obtained by the measure of its distance from the nearest meridian, taken in the direction of the parallel.

These operations require a little attention in charts, where the meridians are not parallel straight lines.

The graduations marked on the edge of the chart being then oblique with regard to the meridians and the parallels, the distances taken as described and referred to these graduations, will not give exactly the differences of latitude and longitude between the place required and the nearest parallel or meridian.

In this case it is requisite, either to find the proportion between these distances, and those of the parallels and meridians on the map, or else to draw the parallel and meridian which passes through the place required, and prolong them to the edges of the chart.

This latter operation is very easy on the conical projection relative to the meridians which are straight lines; and the parallels, which are concentric circles, may be also drawn by following the nearest with one point of a compass, whose opening is equal to the difference of latitude. It is not necessary to observe, that the distance of the two places ought to be measured from the centre of the little circle which indicates their position; but it should be remarked, that when the itinerary distance is required, and the roads are marked, the length of these lines ought to be measured, by taking between the compasses every individual length of the parts included between the turns of the road.

When the map admits of sufficient detail, the plan of the cities is a little extended, and the principal points of them are marked; and it must then be indicated to which of these points the geographical position refers.

97. A simple line marks the course of small rivers; and the two banks are marked separate, when the size of the river is sufficient to admit of its being estimated on the scale of the map, which happens most frequently at their mouths.

The shores of the sea are marked by a very fine line, edged with cross shading.

In geographical charts these shades are exterior with regard to the land, and seem to indicate the undulations of the sea on the coasts; while in nautical charts the shades are turned towards the land, as indicating the steepness of the coasts.

Navigable canals are represented by broken lines, to distinguish them from natural water courses, which are represented by undulating or waved lines.

High roads are often distinguished by fine double lines running parallel to each other, and sometimes by single lines, either continued or dotted, though these last are usually reserved to distinguish the boundaries of different states, kingdoms, and provinces, the magnitude and distance of these points being varied accordingly.

Maps are rendered still more intelligible by being coloured. In some countries, particularly in Germany, the same colour is spread over the whole surface of the country which is to be distinguished from the others; this mode of colouring is perhaps less beautiful than that used in France, but it has the advantage of rendering the size of the country, and form of its boundaries, more obvious.



In measuring the extent of a country, two cases are to be distinguished; that in which the projection of the chart represents, by equal surfaces, regions of equal extent upon the earth; in this case their area is measured like that of plane figures, by inscribing rectangles on the space contained within their boundaries; or by reducing them, at least by approximation, to regular figures.

In the other case the superficies must be divided into quadrilateral figures, formed by the parallels and meridians taken sufficiently near to each other, as has been described in No. 50., speaking of the globe, and the areas of these quadrilateral figures must be measured according to the process described in that number.

98. Maps of the world may serve for the same purpose as general charts; and those which are projected on the plane of the horizon may besides be employed for the solution of the questions described in Nos. 54. and 55. The difference of longitude contained between two meridians which terminate in the same parallel, being converted into time at the rate of one hour to 15 degrees, gives the time which a celestial body, corresponding to the proposed parallel, remains above the horizon, and consequently gives the length of the day, when those parallels are taken, on which the sun travels from one solstice to the other.

If, for the plane of projection or horizon, a circle of illumination be taken; that, for example, which corresponds to our summer solstice, and which is confounded with the horizon in the latitude  $66^{\circ} 32'$ , the map which will result indicates the duration of the day for all the latitudes, by converting into time the difference of longitude of the meridians which terminate these parallels of latitude in each hemisphere.

In general we may, by projections on the different circles of the sphere, resolve the same questions as by means of a globe; and for this purpose, charts have been drawn, to which, on account of their properties, the name of *planispheres* have been given. Father Chryfologue of Goy has published maps of the world on the horizon of Paris, carefully constructed, conveniently mounted, and adapted to solve many problems, both astronomical and geographical, explained in a pamphlet which accompanies the maps. The same author has brought this work to perfection, and has constructed new planispheres on a much larger scale.

99. It is not sufficient to represent in charts the situation of places, the connections of countries, their extent, their divisions, and their boundaries, circumstances which belong to mathematical and political geography; it is likewise required to know the form of the terrestrial surface in these regions, that which is called the *face of the country*; that is to say whether it is flat or mountainous, open or wooded, dry or marshy. Engravers have devised means, sometimes picturesque, sometimes arbitrary, to express upon trigonometrical surveys and topographical charts, these different circumstances which, combined with the climate, and the meteorological phenomena of each country, constitute its physical geography. It is sufficient to look at a map of this kind to recollect the signs which are employed, and to observe that the parts, more or less strongly shaded, represent declivities more or less steep, on which the light loses itself in proportion as they are more perpendicular.

The designs of geographical charts have been very much behind those for topographical purposes, particularly with regard to the mountains;



mountains; because the extent of the forests being considerably diminished in civilized countries, they have nearly disappeared from all maps; but the inequalities of the ground, from the most lofty chains of mountains, to hills of the lowest order, should be expressed in a manner corresponding to all the other geographical circumstances, and consequently should have a place in the details proportionate to their size.

Peaks, or insulated points, in general, rest upon elevations more or less considerable; but the extent of which gives the outlines which determine the form of the vallies, like the sinuities of the coasts, which are, with regard to the sea, like the hollows of mountains.

It may be perceived by these remarks how vague and insignificant are those insulated points which mark the mountains on the majority of maps. We see nothing but that the country they occupy is mountainous, and it would be as well to write *here are mountains*; nothing indicates the course of their chains, their various depressions, and their connections either with each other, or with the islands formed by the summits of the chains, of submarine mountains.

Philippe Buache is the first who has attached himself especially to physical geography, and who has given a precise idea of the branches of the different chains of mountains on the earth connected with the inequalities of the bottom, of the depth of the sea, by means of *soundings* marked on nautical charts. He constructed, with great care, a globe, on which these forms were expressed in relief, certainly in an exaggerated manner with respect to the diameter of the globe, because, without this, it is impossible to render them perceptible. (N° 42.) In the charts which he composed on this subject, he indicated the chains of mountains by the outline of their summits, to which he joined profiles or sections, following given lines, on which he constructed, from a convenient scale, the heights of different points of the terrestrial surface. He traced with particular care, in 1736, a section following the line which passes from Cape Tagrin to Rio Grande, in which direction Africa and America approach the nearest to each other, and which passes near the islands situated in the middle of the great ocean which separates these two continents.

Several authors, taking advantage of this original idea, and assisted by new information acquired on this subject, have published maps of the world, and charts which may be consulted with great propriety to acquire a knowledge of the great inequalities of the terrestrial surface; but precise means are yet wanting to represent them, and to render their respective altitudes obvious.

100. Profiles leave nothing to be desired with respect to precision; but it is scarcely possible to multiply them sufficiently to give in every direction the form of every part of the surface of the earth.

It is obvious, that if upon a nautical chart all the points where the soundings are equal be connected by a line, the form of this line will be that of a section made at the bottom of the sea, by a horizontal plane, depressed below the surface of the fluid, by a quantity equal to the number of the measures or fathoms contained in the sounding. M. Duffain Triel has devised a method, as ingenious as satisfactory, to represent geometrically the form of the surface of a country. This method consists in tracing on the map to be constructed lines which pass through points at the same level or altitude above the surface of the sea; lines which would successively become banks, if the sea could,

by any cause whatever, be raised to that altitude : as the lines which join the equal soundings would become banks, if it could be sunk to the number of fathoms expressed in the soundings.

The heights of these lines, or horizontal sections, are graduated according to the scale of the map, and the steepness of their declivities. Upon a *projet* of a map of France which he has published, M. Duffain Triel has drawn, in the level countries and near the sea-coast, a line which passes through the points which have ten toises of altitude; then that which passes through twenty, and so on successively through every ten toises. These lines, at first thinly scattered, become closer as the country rises more rapidly. Near insulated mountains these lines, which are only marked at the distances of 50 or 100 toises, approach each other according as the inclinations are more or less steep; this may be easily conceived, by observing that the lines traced on the map are the projections of lines on the same level, drawn on the terrestrial surface, and that they ought to be thicker on the mountains for the same reason that the spaces are contracted on the edges of a map projected orthographically. (N<sup>o</sup> 65.)

It is also obvious that the *Plateaux* are remarkable for the level lines which surround them, and which mark the outline of their boundaries.

Finally, if we imagine other lines to intersect the horizontal lines at right angles, these will be the *lines of the greatest inclination*, or those which follow the course of the waters running over the sides of the mountains.

If horizontal lines were always traced on maps, besides the advantage of adopting the methods of the *geometry of planes and surfaces* (*descriptive geometry*) for the resolution of problems, on the intersection of horizontal and inclined planes, very important in the construction of roads and canals; they would be the means of collecting and bringing forward to the world a number of surveys and observations made by civil and military engineers on the heights of mountains, and the results of which are buried with the government plans; and the advantage which might be derived from them would excite travellers and men of science residing in great cities to multiply those barometrical observations which give the respective altitudes of the places where they are made\*.

It is not necessary to have corresponding observations at every station; it is sufficient to procure such a number of observations as will enable us to deduce the mean height of the barometer in that place with certainty. The comparison of the mean heights peculiar to the different stations enables us to ascertain the different altitudes of these stations. This method, which would not be sufficiently exact if it was requisite to compare stations but little elevated above each other, and not far distant, becomes very important with regard to points too far distant to admit of their being trigonometrical operations.

It has been objected, it is true, against the construction of horizontal lines upon charts, that they render them confused; but this inconvenience, however serious it may be, cannot be compared with the utility of the objects described above; besides, it may be partly remedied by distinguishing with a particular colour the horizontal lines.

\* The Abbe Chéppe surveyed, in this manner, in 1761, the road from Brest to Tobolsk, and gave the results in the narrative of his journey.

I shall observe on this subject, that even topographical objects, where they are strongly expressed by the graver, do not allow of many places being designated on one map, and compel us to adopt a larger scale. However, if it cannot be otherwise contrived, each country may be represented by two charts on the same plan; one containing the detail of the places: the other, only including the most remarkable points, might contain the horizontal lines.

101. When the last mentioned charts cannot be obtained, it is possible, by an examination of the course of the water and its branches, to deduce some general indications of the form of the ground in the different countries of the globe.

The water which falls from the sides of mountains and hills, collecting itself in torrents and rivers, either immediately, or after having penetrated into the interior of the earth, as far as the clayey stratum which stops its progress, traces upon the terrestrial surface the *lines of the greatest inclination*, which approach nearer to the level of the sea in proportion as the course of the water is prolonged.

The course of the principal rivers on a map, indicates the low part of the most considerable vallies. These vallies are bounded by high lands, which are again intersected by secondary vallies, through which run those rivers which empty themselves into the first.

In the same manner other smaller vallies are distinguished by still less considerable rivers; so that the whole course of water forms a sort of net-work, of which the threads intersect at very obtuse angles.

If we ascend as far as the source of the largest rivers, and to that of their secondary rivers which join them near their source, we shall generally arrive at the most elevated points. We may deduce, therefore, with a very few exceptions, the steepness of a declivity from the greater or less degree of curvature in the bed of the river; but that which is more particularly worthy of attention, are those parts where the water divides itself into opposite directions, and runs into different seas or lakes. It is there that the *points of division* are found, the determination of which is the principal basis of the construction of navigable canals, intended to connect one sea with another. It was by discovering with great sagacity, by the inspection only of the form of the Black Mountain, the point of separation of its streams towards the ocean and towards the Mediterranean, that Francis Andreossi conceived the plan and the possibility of executing a canal towards the south, the finest work of this description that has ever been attempted. His great grandson, Andreossi, the general of artillery, was the first to develop, in his interesting history of the same canal, the considerations which ought to serve as a guide, in a survey intended to discover the points of separation and re-union of the streams intended to fill a canal.

Two engineers of bridges and high roads, M. Dupuy and M. Briffon, have also, in a very ingenious manner, referred the characters, indicative of these circumstances, to the forms of geometrical surfaces. Their memoir, presented to the Institute, will no doubt be very soon printed.

102. To particularize the summary ideas which I have just presented, I shall now point out their application.

At the first glance over a general map of Asia, it must be observed that the great rivers which terminate in the Indian, the Chinese, and the Northern seas, rise in Thibet and to the north of the country of the Eleutheri, from which it appears that these countries are surrounded with very high mountains, and here is found the highest plain in Asia, which is the base of these mountains. From this plain three declivities

are

are directed towards each of the above-mentioned seas; these declivities are intersected by the branches of the mountains in which the auxiliary streams of these rivers have their source.

Even if the mountains of Kamenoipayas, which separate Russia in Europe from Russia in Asia, were not marked upon the map, the almost opposite direction of the Oby and Peezara, and that of the rivers which fall into the Northern Ocean to the west of the Strait of Waygats, and into the White Sea, would indicate them.

In the same manner, we observe an elevated plain between the Black sea, the Caspian, the Mediterranean, and the Persian gulf. The Caspian sea, the lake of Aral in Asia, and that lake where the Niger loses itself in Africa, are, on the contrary, the low parts where those declivities meet on which the rivers flow that descend along their sides.

103. Having explained the astronomical methods for the determination of places distant from each other, and the means of delineating these places, either by the construction of globes or maps, and also shewn how these maps should be filled up, by the combination of trigonometrical plans, with the narratives of travellers or historians, the use that may be made of these various representations, and the conclusions that may be drawn from them relative to the inequalities of the surface of the earth, I have fulfilled the object which I proposed to myself in this Introduction. It only contains, in fact, the rudiments of the important subjects which I have treated; but it is the first time that they have been collected and methodically arranged. I therefore flatter myself that I have some claim to the indulgence of the reader, who being put into the proper road to pursue this study, cannot fail of finding sources from which he may obtain more detailed information. The original works are well known; the improvement which geography has received from the measure of the arc of the meridian; from the great military operations, and from the recent labours of government, are continually improving these methods, and obtaining more satisfactory results\*.

\* The topographical and military memorial, abridged for the war department, presents a methodical exposition. There is also in Germany a Journal devoted to geography, conducted by M. de Zach.

## TABLES

RELATING TO THE

## MAGNITUDE AND FIGURE OF THE EARTH.

TABLE. I.

A Table of the Meridional Degrees of the Terrestrial Spheroid calculated to every Degree of Latitude.

| Lat. of the middle Point. | English Feet. | Diff. | Lat. of the middle Point. | English Feet. | Diff. | Lat. of the middle Point. | English Feet. | Diff. |
|---------------------------|---------------|-------|---------------------------|---------------|-------|---------------------------|---------------|-------|
| 0                         | 362909        | 1     | 30                        | 363724        | 49    | 60                        | 365368        | 48    |
| 1                         | 362910        | 3     | 31                        | 363773        | 50    | 61                        | 365416        | 47    |
| 2                         | 362913        | 5     | 32                        | 363823        | 51    | 62                        | 365463        | 46    |
| 3                         | 362918        | 7     | 33                        | 363874        | 52    | 63                        | 365509        | 45    |
| 4                         | 362925        | 9     | 34                        | 363926        | 53    | 64                        | 365554        | 44    |
| 5                         | 362934        | 11    | 35                        | 363979        | 54    | 65                        | 365598        | 41    |
| 6                         | 362945        | 13    | 36                        | 364033        | 55    | 66                        | 365641        | 42    |
| 7                         | 362958        | 15    | 37                        | 364088        | 56    | 67                        | 365682        | 40    |
| 8                         | 362973        | 16    | 38                        | 364144        | 57    | 68                        | 365722        | 39    |
| 9                         | 362989        | 18    | 39                        | 364201        | 57    | 69                        | 365761        | 38    |
| 10                        | 363007        | 20    | 40                        | 364258        | 57    | 70                        | 365799        | 37    |
| 11                        | 363027        | 22    | 41                        | 364315        | 57    | 71                        | 365836        | 35    |
| 12                        | 363049        | 24    | 42                        | 364372        | 57    | 72                        | 365871        | 33    |
| 13                        | 363073        | 26    | 43                        | 364430        | 58    | 73                        | 365904        | 31    |
| 14                        | 363099        | 28    | 44                        | 364488        | 58    | 74                        | 365935        | 30    |
| 15                        | 363127        | 30    | 45                        | 364546        | 58    | 75                        | 365965        | 28    |
| 16                        | 363157        | 32    | 46                        | 364604        | 58    | 76                        | 365993        | 26    |
| 17                        | 363189        | 34    | 47                        | 364662        | 57    | 77                        | 366019        | 24    |
| 18                        | 363223        | 35    | 48                        | 364720        | 57    | 78                        | 366043        | 23    |
| 19                        | 363258        | 37    | 49                        | 364777        | 57    | 79                        | 366065        | 20    |
| 20                        | 363295        | 38    | 50                        | 364834        | 57    | 80                        | 366084        | 18    |
| 21                        | 363333        | 39    | 51                        | 364891        | 57    | 81                        | 366102        | 16    |
| 22                        | 363370        | 40    | 52                        | 364948        | 56    | 82                        | 366118        | 15    |
| 23                        | 363410        | 41    | 53                        | 365004        | 55    | 83                        | 366133        | 13    |
| 24                        | 363451        | 43    | 54                        | 365059        | 54    | 84                        | 366146        | 11    |
| 25                        | 363494        | 44    | 55                        | 365113        | 53    | 85                        | 366159        | 9     |
| 26                        | 363538        | 45    | 56                        | 365160        | 52    | 86                        | 366168        | 7     |
| 27                        | 363583        | 46    | 57                        | 365218        | 51    | 87                        | 366175        | 5     |
| 28                        | 363629        | 47    | 58                        | 365269        | 50    | 88                        | 366180        | 3     |
| 29                        | 363676        | 48    | 59                        | 365319        | 49    | 89                        | 366183        | 1     |
| 30                        | 363724        |       | 60                        | 365368        |       | 90                        | 366184        |       |

In the above Table, the ellipticity is supposed  $\frac{1}{29}$ , the degree at the equator, and at  $45^\circ$  taken from actual measurement; and the other degrees calculated according to the rules explained in the text.

TABLE II.

A Table of Perpendicular Degrees on the Spheroid calculated to every Degree of the Meridian in English Feet, (Ellipticity =  $\frac{1}{174}$ ).

| Lat. | Perp. Deg. | Diff. | Lat. | Perp. Deg. | Diff. | Lat. | Perp. Deg. | Diff. |
|------|------------|-------|------|------------|-------|------|------------|-------|
| 0    | 365094     | 1     | 30   | 365360     | 17    | 60   | 365920     | 17    |
| 1    | 365095     | 2     | 31   | 365377     | 18    | 61   | 365937     | 16    |
| 2    | 365097     | 2     | 32   | 365395     | 18    | 62   | 365953     | 16    |
| 3    | 365099     | 3     | 33   | 365413     | 18    | 63   | 365969     | 15    |
| 4    | 365102     | 4     | 34   | 365431     | 18    | 64   | 365984     | 14    |
| 5    | 365106     | 4     | 35   | 365449     | 19    | 65   | 365998     | 13    |
| 6    | 365110     | 5     | 36   | 365468     | 19    | 66   | 366011     | 12    |
| 7    | 365115     | 5     | 37   | 365487     | 19    | 67   | 366023     | 12    |
| 8    | 365120     | 5     | 38   | 365506     | 19    | 68   | 366035     | 12    |
| 9    | 365125     | 6     | 39   | 365525     | 19    | 69   | 366047     | 11    |
| 10   | 365131     | 7     | 40   | 365544     | 19    | 70   | 366058     | 11    |
| 11   | 365138     | 8     | 41   | 365563     | 19    | 71   | 366069     | 10    |
| 12   | 365146     | 8     | 42   | 365582     | 19    | 72   | 366079     | 10    |
| 13   | 365156     | 9     | 43   | 365601     | 19    | 73   | 366089     | 10    |
| 14   | 365163     | 9     | 44   | 365620     | 19    | 74   | 366099     | 9     |
| 15   | 365172     | 9     | 45   | 365640     | 19    | 75   | 366108     | 9     |
| 16   | 365181     | 10    | 46   | 365660     | 19    | 76   | 366117     | 9     |
| 17   | 365191     | 10    | 47   | 365679     | 19    | 77   | 366126     | 8     |
| 18   | 365201     | 10    | 48   | 365698     | 19    | 78   | 366134     | 7     |
| 19   | 365211     | 11    | 49   | 365717     | 19    | 79   | 366141     | 7     |
| 20   | 365222     | 11    | 50   | 365736     | 19    | 80   | 366148     | 6     |
| 21   | 365233     | 12    | 51   | 365755     | 19    | 81   | 366154     | 5     |
| 22   | 365245     | 12    | 52   | 365774     | 19    | 82   | 366159     | 5     |
| 23   | 365257     | 12    | 53   | 365793     | 19    | 83   | 366164     | 4     |
| 24   | 365269     | 13    | 54   | 365812     | 19    | 84   | 366168     | 4     |
| 25   | 365282     | 14    | 55   | 365831     | 18    | 85   | 366172     | 4     |
| 26   | 365296     | 15    | 56   | 365849     | 18    | 86   | 366176     | 3     |
| 27   | 365311     | 16    | 57   | 365867     | 18    | 87   | 366179     | 2     |
| 28   | 365327     | 16    | 58   | 365885     | 18    | 88   | 366181     | 2     |
| 29   | 365343     | 17    | 59   | 365903     | 17    | 89   | 366183     | 1     |
| 30   | 365360     | 60    | 60   | 365920     | 90    | 90   | 366184     |       |



TABLE III.

Table of the Degrees of Longitude on the Spheroid; to every Degree of Latitude, computed in Fathoms, the Ellipticity being supposed  $\frac{1}{14}$ .

| Lat. | Degrees of Longitude. | Diff. | 2d Diff. | Lat. | Degrees of Longitude. | Diff. | 2d Diff. | Lat. | Degrees of Longitude. | Diff. | 2d Diff. |
|------|-----------------------|-------|----------|------|-----------------------|-------|----------|------|-----------------------|-------|----------|
|      | Fathoms.              |       |          |      | Fathoms.              |       |          |      | Fathoms.              |       |          |
| 17   | 0                     | 60849 | 9        | 30   | 52734                 | 536   | 16       | 60   | 30493                 | 925   | 9        |
| 16   | 1                     | 60840 | 28       | 31   | 52198                 | 552   | 16       | 61   | 29568                 | 934   | 9        |
| 16   | 2                     | 60812 | 46       | 32   | 51646                 | 568   | 16       | 62   | 28634                 | 943   | 9        |
| 15   | 3                     | 60766 | 64       | 33   | 51078                 | 584   | 16       | 63   | 27691                 | 952   | 8        |
| 14   | 4                     | 60702 | 83       | 34   | 50494                 | 600   | 15       | 64   | 26739                 | 960   | 8        |
| 14   | 5                     | 60619 | 101      | 35   | 49894                 | 615   | 15       | 65   | 25778                 | 968   | 8        |
| 13   | 6                     | 60518 | 119      | 36   | 49279                 | 630   | 15       | 66   | 24810                 | 976   | 7        |
| 12   | 7                     | 60899 | 138      | 37   | 48649                 | 645   | 15       | 67   | 23835                 | 983   | 7        |
| 12   | 8                     | 60261 | 156      | 38   | 48004                 | 660   | 14       | 68   | 22852                 | 990   | 7        |
| 11   | 9                     | 60105 | 174      | 39   | 47344                 | 674   | 14       | 69   | 21863                 | 997   | 6        |
| 11   | 10                    | 59931 | 192      | 40   | 46670                 | 688   | 14       | 70   | 20866                 | 1003  | 6        |
| 10   | 11                    | 59738 | 210      | 41   | 45982                 | 702   | 14       | 71   | 19863                 | 1009  | 6        |
| 9    | 12                    | 59527 | 228      | 42   | 45280                 | 716   | 14       | 72   | 18854                 | 1015  | 6        |
| 9    | 13                    | 59299 | 246      | 43   | 44564                 | 730   | 13       | 73   | 17839                 | 1021  | 5        |
| 8    | 14                    | 59053 | 264      | 44   | 43834                 | 743   | 13       | 74   | 16818                 | 1026  | 5        |
| 7    | 15                    | 58789 | 282      | 45   | 43091                 | 756   | 13       | 75   | 15792                 | 1030  | 4        |
| 7    | 16                    | 58507 | 300      | 46   | 42235                 | 769   | 13       | 76   | 14762                 | 1035  | 5        |
| 6    | 17                    | 58207 | 318      | 47   | 41566                 | 782   | 13       | 77   | 13727                 | 1040  | 4        |
| 5    | 18                    | 57890 | 336      | 48   | 40784                 | 795   | 13       | 78   | 12687                 | 1044  | 3        |
| 5    | 19                    | 57554 | 354      | 49   | 39989                 | 808   | 11       | 79   | 11643                 | 1047  | 3        |
| 4    | 20                    | 57209 | 372      | 50   | 39181                 | 220   | 11       | 80   | 10596                 | 1050  | 3        |
| 4    | 21                    | 56828 | 390      | 51   | 38361                 | 231   | 11       | 81   | 9546                  | 1053  | 3        |
| 4    | 22                    | 56438 | 407      | 52   | 37530                 | 842   | 11       | 82   | 8493                  | 1056  | 2        |
| 3    | 23                    | 56031 | 423      | 53   | 36688                 | 853   | 11       | 83   | 7437                  | 1058  | 2        |
| 2    | 24                    | 55608 | 439      | 54   | 35835                 | 864   | 11       | 84   | 6379                  | 1060  | 2        |
| 2    | 25                    | 55169 | 455      | 55   | 34971                 | 875   | 11       | 85   | 5319                  | 1062  | 1        |
| 1    | 26                    | 54714 | 471      | 56   | 34096                 | 886   | 10       | 86   | 4257                  | 1063  | 1        |
|      | 27                    | 54243 | 487      | 57   | 33211                 | 896   | 10       | 87   | 3194                  | 1064  | 1        |
|      | 28                    | 53756 | 503      | 58   | 32315                 | 906   | 10       | 88   | 2130                  | 1065  | 0        |
|      | 29                    | 53253 | 519      | 59   | 31409                 | 916   | 10       | 89   | 1065                  | 1065  | 0        |
|      | 30                    | 52734 |          | 60   | 30493                 |       | 90       | 90   | 0000                  |       |          |

TABLE IV.

Table of Degrees of Longitude on the Sphere to every Degree of Latitude.

| Lat. | Fathoms. | Diff. | 2d Diff. | Lat. | Fathoms. | Diff. | 2d Diff. | Lat. | Fathoms. | Diff. | 2d Diff. |
|------|----------|-------|----------|------|----------|-------|----------|------|----------|-------|----------|
| 0    | 60758    | 9     |          | 30   | 52618    | 538   | 16       | 60   | 30379    | 923   | 9        |
| 1    | 60749    | 28    | 19       | 31   | 52080    | 554   | 16       | 61   | 29456    | 932   | 9        |
| 2    | 60721    | 47    | 19       | 32   | 51526    | 570   | 15       | 62   | 28524    | 940   | 9        |
| 3    | 60674    | 65    | 18       | 33   | 50956    | 585   | 16       | 63   | 27584    | 949   | 9        |
| 4    | 60610    | 83    | 18       | 34   | 50371    | 601   | 15       | 64   | 26635    | 958   | 9        |
| 5    | 60527    | 102   | 19       | 35   | 49770    | 616   | 15       | 65   | 25677    | 965   | 7        |
| 6    | 60425    | 120   | 18       | 36   | 49154    | 631   | 15       | 66   | 24712    | 972   | 7        |
| 7    | 60305    | 139   | 19       | 37   | 48523    | 646   | 14       | 67   | 23740    | 979   | 7        |
| 8    | 60166    | 156   | 17       | 38   | 47878    | 660   | 15       | 68   | 22760    | 986   | 7        |
| 9    | 60010    | 175   | 19       | 39   | 47218    | 675   | 13       | 69   | 21774    | 993   | 7        |
| 10   | 59835    | 193   | 18       | 40   | 46543    | 688   | 15       | 70   | 20781    | 999   | 6        |
| 11   | 59642    | 212   | 19       | 41   | 45855    | 703   | 13       | 71   | 19782    | 1005  | 6        |
| 12   | 59430    | 229   | 17       | 42   | 45152    | 716   | 14       | 72   | 18777    | 1011  | 6        |
| 13   | 59201    | 248   | 19       | 43   | 44436    | 730   | 14       | 73   | 17766    | 1017  | 6        |
| 14   | 58953    | 265   | 18       | 44   | 43706    | 744   | 14       | 74   | 16749    | 1022  | 5        |
| 15   | 58688    | 284   | 19       | 45   | 42962    | 756   | 12       | 75   | 15727    | 1027  | 5        |
| 16   | 58404    | 301   | 17       | 46   | 42206    | 769   | 13       | 76   | 14700    | 1032  | 5        |
| 17   | 58103    | 319   | 18       | 47   | 41437    | 782   | 13       | 77   | 13668    | 1032  | 4        |
| 18   | 57784    | 337   | 17       | 48   | 40655    | 794   | 12       | 78   | 12633    | 1040  | 4        |
| 19   | 57447    | 354   | 18       | 49   | 39861    | 806   | 12       | 79   | 11593    | 1043  | 3        |
| 20   | 57093    | 371   | 17       | 50   | 39054    | 818   | 12       | 80   | 10550    | 1046  | 3        |
| 21   | 56722    | 388   | 17       | 51   | 38236    | 830   | 11       | 81   | 9505     | 1049  | 3        |
| 22   | 56334    | 406   | 18       | 52   | 37406    | 841   | 11       | 82   | 8456     | 1052  | 3        |
| 23   | 55928    | 423   | 17       | 53   | 36565    | 852   | 11       | 83   | 7404     | 1054  | 2        |
| 24   | 55505    | 440   | 17       | 54   | 35713    | 864   | 10       | 84   | 6351     | 1056  | 2        |
| 25   | 55065    | 456   | 16       | 55   | 34849    | 874   | 10       | 85   | 5295     | 1057  | 1        |
| 26   | 54609    | 473   | 17       | 56   | 33975    | 884   | 10       | 86   | 4238     | 1058  | 1        |
| 27   | 54136    | 490   | 17       | 57   | 33091    | 894   | 10       | 87   | 3180     | 1059  | 1        |
| 28   | 53646    | 506   | 16       | 58   | 32197    | 904   | 10       | 88   | 2121     | 1060  | 1        |
| 29   | 53140    | 522   | 16       | 59   | 31293    | 914   | 10       | 89   | 1060     | 1060  | 0        |
| 30   | 52618    |       |          | 60   | 30379    |       |          | 90   | 0000     |       |          |

# INTRODUCTION.

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## TABLE V.

Table of Decimal Degrees of Longitude on a Sphere.

Degree of

| Diff. | 2d Diff. |
|-------|----------|
| 923   | 9        |
| 932   | 9        |
| 940   | 9        |
| 949   | 9        |
| 958   | 7        |
| 965   | 7        |
| 972   | 7        |
| 979   | 7        |
| 986   | 7        |
| 993   | 6        |
| 999   | 6        |
| 1005  | 6        |
| 1011  | 6        |
| 1017  | 5        |
| 1022  | 5        |
| 1027  | 5        |
| 1032  | 4        |
| 1006  | 4        |
| 1040  | 3        |
| 1043  | 3        |
| 1046  | 3        |
| 1049  | 3        |
| 1052  | 2        |
| 1054  | 2        |
| 1056  | 1        |
| 1057  | 1        |
| 1058  | 1        |
| 1059  | 1        |
| 1060  | 0        |
| 1060  | 0        |

| Latitude in Decimal Degrees. | Degrees of Longitude.  | Latitude in Decimal Degrees. | Degrees of Longitude. | Latitude in Decimal Degrees. | Degrees of Longitude. |
|------------------------------|------------------------|------------------------------|-----------------------|------------------------------|-----------------------|
| 0                            | Kilometres.<br>100,000 | 34                           | Kilometres.<br>86,074 | 68                           | Kilometres.<br>48,175 |
| 1                            | 99,988                 | 35                           | 85,264                | 69                           | 46,793                |
| 2                            | 99,951                 | 36                           | 84,433                | 70                           | 45,399                |
| 3                            | 99,889                 | 37                           | 83,581                | 71                           | 43,994                |
| 4                            | 99,803                 | 38                           | 82,708                | 72                           | 42,578                |
| 5                            | 99,692                 | 39                           | 81,815                | 73                           | 41,151                |
| 6                            | 99,556                 | 40                           | 80,902                | 74                           | 39,115                |
| 7                            | 99,396                 | 41                           | 79,968                | 75                           | 38,268                |
| 8                            | 99,211                 | 42                           | 79,015                | 76                           | 36,812                |
| 9                            | 99,002                 | 43                           | 78,043                | 77                           | 35,347                |
| 10                           | 98,769                 | 44                           | 77,051                | 78                           | 33,874                |
| 11                           | 98,511                 | 45                           | 76,040                | 79                           | 32,392                |
| 12                           | 98,229                 | 46                           | 75,011                | 80                           | 30,902                |
| 13                           | 97,922                 | 47                           | 73,963                | 81                           | 29,404                |
| 14                           | 97,592                 | 48                           | 72,897                | 82                           | 27,899                |
| 15                           | 97,237                 | 49                           | 71,813                | 83                           | 26,387                |
| 16                           | 96,858                 | 50                           | 70,711                | 84                           | 24,869                |
| 17                           | 96,456                 | 51                           | 69,591                | 85                           | 23,344                |
| 18                           | 96,029                 | 52                           | 68,455                | 86                           | 21,814                |
| 19                           | 95,579                 | 53                           | 67,301                | 87                           | 20,279                |
| 20                           | 95,106                 | 54                           | 66,131                | 88                           | 18,738                |
| 21                           | 94,608                 | 55                           | 64,945                | 89                           | 17,193                |
| 22                           | 94,588                 | 56                           | 63,742                | 90                           | 15,643                |
| 23                           | 94,544                 | 57                           | 62,524                | 91                           | 14,090                |
| 24                           | 92,978                 | 58                           | 61,291                | 92                           | 12,533                |
| 25                           | 92,388                 | 59                           | 60,042                | 93                           | 10,973                |
| 26                           | 91,775                 | 60                           | 58,778                | 94                           | 9,411                 |
| 27                           | 91,140                 | 61                           | 57,500                | 95                           | 7,846                 |
| 28                           | 90,483                 | 62                           | 56,208                | 96                           | 6,279                 |
| 29                           | 89,803                 | 63                           | 54,902                | 97                           | 4,711                 |
| 30                           | 89,101                 | 64                           | 53,583                | 98                           | 3,141                 |
| 31                           | 88,377                 | 65                           | 52,250                | 99                           | 1,571                 |
| 32                           | 87,631                 | 66                           | 50,904                | 100                          | 0,000                 |
| 33                           | 86,863                 | 67                           | 49,546                |                              |                       |

TABLE VI.

Of Decimal Degrees of Latitude, the Ellipticity being supposed  $\frac{1}{28}$ .

| Lat. | Degrees of Latitude. | Differ. | Lat. | Degrees of Latitude. | Differ. | Lat. | Degrees of Latitude. | Differ. |
|------|----------------------|---------|------|----------------------|---------|------|----------------------|---------|
| G.   | Metres.              | M.      | G.   | Metres.              | M.      | G.   | Metres.              | M.      |
| 0    | 99552.5              | 0.4     | 35   | 99801.2              | 12.7    | 70   | 100269.0             | 11.2    |
| 1    | 99552.9              | 0.9     | 36   | 99814.9              | 12.9    | 71   | 100280.2             | 10.9    |
| 2    | 99553.8              | 1.3     | 37   | 99827.8              | 13.1    | 72   | 100291.1             | 10.6    |
| 3    | 99555.1              | 1.8     | 38   | 99840.9              | 13.2    | 73   | 100301.7             | 10.3    |
| 4    | 99556.9              | 2.1     | 39   | 99854.1              | 13.4    | 74   | 100312.0             | 10.0    |
| 5    | 99559.0              | 2.8     | 40   | 99867.5              | 13.5    | 75   | 100322.0             | 9.7     |
| 6    | 99561.8              | 3.0     | 41   | 99881.0              | 13.6    | 76   | 100331.7             | 9.4     |
| 7    | 99564.7              | 3.5     | 42   | 99894.6              | 13.7    | 77   | 100341.1             | 9.0     |
| 8    | 99568.2              | 3.9     | 43   | 99908.3              | 13.8    | 78   | 100350.1             | 8.7     |
| 9    | 99572.1              | 4.3     | 44   | 99922.1              | 13.9    | 79   | 100358.8             | 8.4     |
| 10   | 99576.4              | 4.8     | 45   | 99936.0              | 13.9    | 80   | 100367.2             | 7.9     |
| 11   | 99581.2              | 5.1     | 46   | 99950.0              | 14.0    | 81   | 100375.1             | 7.6     |
| 12   | 99586.3              | 5.6     | 47   | 99964.0              | 14.0    | 82   | 100382.7             | 7.2     |
| 13   | 99591.8              | 5.9     | 48   | 99978.0              | 14.1    | 83   | 100389.9             | 6.9     |
| 14   | 99597.8              | 6.4     | 49   | 99992.1              | 14.1    | 84   | 100396.8             | 6.4     |
| 15   | 99604.2              | 6.7     | 50   | 100006.2             | 14.1    | 85   | 100403.2             | 6.1     |
| 16   | 99610.9              | 7.1     | 51   | 100020.3             | 14.1    | 86   | 100409.3             | 5.6     |
| 17   | 99618.0              | 7.4     | 52   | 100034.4             | 14.0    | 87   | 100414.9             | 5.2     |
| 18   | 99625.4              | 8.0     | 53   | 100048.4             | 14.0    | 88   | 100420.1             | 4.8     |
| 19   | 99633.4              | 8.2     | 54   | 100062.4             | 13.9    | 89   | 100424.9             | 4.4     |
| 20   | 99641.6              | 8.6     | 55   | 100076.3             | 13.9    | 90   | 100429.3             | 3.9     |
| 21   | 99650.2              | 8.9     | 56   | 100090.2             | 13.7    | 91   | 100433.2             | 3.6     |
| 22   | 99659.1              | 9.3     | 57   | 100103.9             | 13.7    | 92   | 100436.8             | 3.1     |
| 23   | 99668.4              | 9.6     | 58   | 100117.6             | 13.6    | 93   | 100439.9             | 2.6     |
| 24   | 99678.0              | 9.9     | 59   | 100131.2             | 13.4    | 94   | 100442.5             | 2.2     |
| 25   | 99687.9              | 10.2    | 60   | 100144.6             | 13.3    | 95   | 100444.7             | 1.8     |
| 26   | 99698.1              | 10.5    | 61   | 100157.9             | 13.1    | 96   | 100446.5             | 1.3     |
| 27   | 99708.6              | 10.8    | 62   | 100171.0             | 13.0    | 97   | 100447.8             | 0.9     |
| 28   | 99719.4              | 11.1    | 63   | 100184.0             | 12.8    | 98   | 100448.7             | 0.4     |
| 29   | 99730.5              | 11.4    | 64   | 100196.8             | 12.6    | 99   | 100449.2             |         |
| 30   | 99741.9              | 11.6    | 65   | 100209.4             | 12.3    | 100  |                      |         |
| 31   | 99753.5              | 11.8    | 66   | 100221.7             | 12.2    |      |                      |         |
| 32   | 99765.3              | 12.1    | 67   | 100233.9             | 12.0    |      |                      |         |
| 33   | 99777.4              | 12.3    | 68   | 100245.9             | 11.7    |      |                      |         |
| 34   | 99789.7              | 12.5    | 69   | 100257.5             | 11.5    |      |                      |         |
| 35   | 99802.2              |         | 70   | 100269.0             |         |      |                      |         |

TABLE VII.

Of decimal Degrees of Longitude, the Ellipticity being supposed  $\frac{1}{33}$ .

| Lat. | Degrees of Longitude. | Differ. | Lat. | Degrees of Longitude. | Differ. | Lat. | Degrees of Longitude. | Differ. |
|------|-----------------------|---------|------|-----------------------|---------|------|-----------------------|---------|
| G.   | Metres.               | M.      | G.   | Metres.               | M.      | G.   | Metres.               | M.      |
| 0    | 100149.4              | 12.3    | 35   | 85461.0               | 829.6   | 70   | 45574.8               | 1408.9  |
| 1    | 100137.1              | 36.8    | 36   | 84631.4               | 850.5   | 71   | 44165.9               | 1419.9  |
| 2    | 100100.3              | 61.4    | 37   | 83780.6               | 871.2   | 72   | 42746.0               | 1430.7  |
| 3    | 100038.9              | 85.9    | 38   | 82909.7               | 891.6   | 73   | 41315.3               | 1440.9  |
| 4    | 99953.0               | 110.5   | 39   | 82018.1               | 911.9   | 74   | 39874.4               | 1451.0  |
| 5    | 99842.5               | 134.9   | 40   | 81106.2               | 932.1   | 75   | 38423.4               | 1460.6  |
| 6    | 99707.6               | 159.4   | 41   | 80174.1               | 951.8   | 76   | 36962.8               | 1469.8  |
| 7    | 99548.2               | 183.9   | 42   | 79222.3               | 971.4   | 77   | 35493.0               | 1478.8  |
| 8    | 99364.3               | 208.1   | 43   | 78250.9               | 990.8   | 78   | 34014.2               | 1487.2  |
| 9    | 99156.2               | 232.6   | 44   | 77260.1               | 1010.0  | 79   | 32527.0               | 1495.4  |
| 10   | 98923.6               | 256.8   | 45   | 76250.1               | 1028.8  | 80   | 31031.6               | 1508.1  |
| 11   | 98666.8               | 281.0   | 46   | 75221.3               | 1047.5  | 81   | 29528.5               | 1510.6  |
| 12   | 98385.8               | 305.2   | 47   | 74173.8               | 1065.8  | 82   | 28017.9               | 1517.6  |
| 13   | 98080.6               | 329.3   | 48   | 73108.0               | 1084.0  | 83   | 26500.3               | 1524.2  |
| 14   | 97751.3               | 358.2   | 49   | 72024.0               | 1101.9  | 84   | 24976.1               | 1530.5  |
| 15   | 97398.1               | 377.2   | 50   | 70922.1               | 1119.5  | 85   | 23445.6               | 1536.4  |
| 16   | 97020.9               | 401.0   | 51   | 69802.6               | 1136.8  | 86   | 21909.2               | 1541.9  |
| 17   | 96616.9               | 424.8   | 52   | 68665.8               | 1153.7  | 87   | 20367.3               | 1547.0  |
| 18   | 96195.1               | 448.4   | 53   | 67512.0               | 1170.7  | 88   | 18820.3               | 1551.7  |
| 19   | 95746.8               | 471.9   | 54   | 66341.3               | 1187.1  | 89   | 17268.6               | 1556.0  |
| 20   | 95274.9               | 495.3   | 55   | 65154.2               | 1203.3  | 90   | 15712.6               | 1560.0  |
| 21   | 94779.6               | 518.7   | 56   | 63950.9               | 1219.2  | 91   | 14152.6               | 1563.6  |
| 22   | 94260.9               | 541.8   | 57   | 62731.7               | 1234.9  | 92   | 12589.0               | 1566.7  |
| 23   | 93719.1               | 564.9   | 58   | 61496.8               | 1250.1  | 93   | 11022.3               | 1569.4  |
| 24   | 93154.2               | 587.8   | 59   | 60246.7               | 1265.2  | 94   | 9452.9                | 1571.9  |
| 25   | 92566.4               | 610.6   | 60   | 58981.5               | 1279.9  | 95   | 7881.0                | 1573.8  |
| 26   | 91955.8               | 633.2   | 61   | 57701.6               | 1294.2  | 96   | 6307.2                | 1575.4  |
| 27   | 91322.6               | 655.7   | 62   | 56407.4               | 1308.3  | 97   | 4731.8                | 1576.1  |
| 28   | 90666.9               | 678.0   | 63   | 55099.1               | 1322.0  | 98   | 3155.7                | 1577.9  |
| 29   | 89988.9               | 700.3   | 64   | 53777.1               | 1335.4  | 99   | 1577.8                | 1577.8  |
| 30   | 89288.6               | 722.2   | 65   | 52441.7               | 1348.6  | 100  | 0.0                   |         |
| 31   | 88566.4               | 744.0   | 66   | 51093.1               | 1361.3  |      |                       |         |
| 32   | 87822.4               | 765.7   | 67   | 49731.8               | 1373.6  |      |                       |         |
| 33   | 87056.7               | 787.2   | 68   | 48358.3               | 1385.8  |      |                       |         |
| 34   | 86269.5               | 808.5   | 69   | 46972.4               | 1397.6  |      |                       |         |
| 35   | 85461.0               |         | 70   | 45574.8               |         |      |                       |         |

## NEW FRENCH MEASURES.

|             |         | English Inches. |
|-------------|---------|-----------------|
| Millimetre  | - - -   | ,03937          |
| Centimetre  | - - -   | ,39371          |
| Dicimetre   | - - -   | 3,93710         |
| Metre       | - 3,281 | 39,37100        |
| Decametre   | - - -   | 393,71000       |
| Hectometre  | - - -   | 3937,10000      |
| Chiliometre | - - -   | 39371,00000     |
| Myriometre  | - - -   | 393710,00000    |

A Metre is 1,09364 yards, or nearly one yard  $1\frac{1}{2}$  nail, or 443,2959 lines Fr., or ,513074 toises.

A Decametre is 10 yards, 2 feet, 9,7 inches.

A Hectometre is 109 yards, 1 foot, 1 inch.

A Chiliometre 4 furlongs, 213 yards, 1 foot, 1 inch.

A Micrometre, 6 miles, 1 furlong, 156 yards, 0 feet, 6 inches.

Eight Chiliometres are nearly five miles.

An inch is ,0254 miles, 2441 inches, 62 metres, 1000 feet, nearly 305 metres.

An Are, a square decametre, is 3,95 perches, E.

A Hectare, 2 acres, 1 rood, 35,4 perches.

|                          |       | Cubic Inches. |
|--------------------------|-------|---------------|
| Millilitre               | - - - | ,06103        |
| Centilitre               | - - - | ,61028        |
| Decilitre                | - - - | 6,10280       |
| Litre, a cubic Decimetre | - - - | 6,102800      |
| Decalitre                | - - - | 610,28000     |
| Hectalitre               | - - - | 6102,80000    |
| Chililitre               | - - - | 61028,00000   |
| Myriolitre               | - - - | 610280,00000  |

A Litre is nearly  $2\frac{1}{2}$  wine pints; 14 Decilitres are nearly three wine pints; a Chililitre is 1 tun, 12,75 wine gallons.

A Decistre for firewood is 3,5317 cubic feet E.

A Stere, a cubic measure.



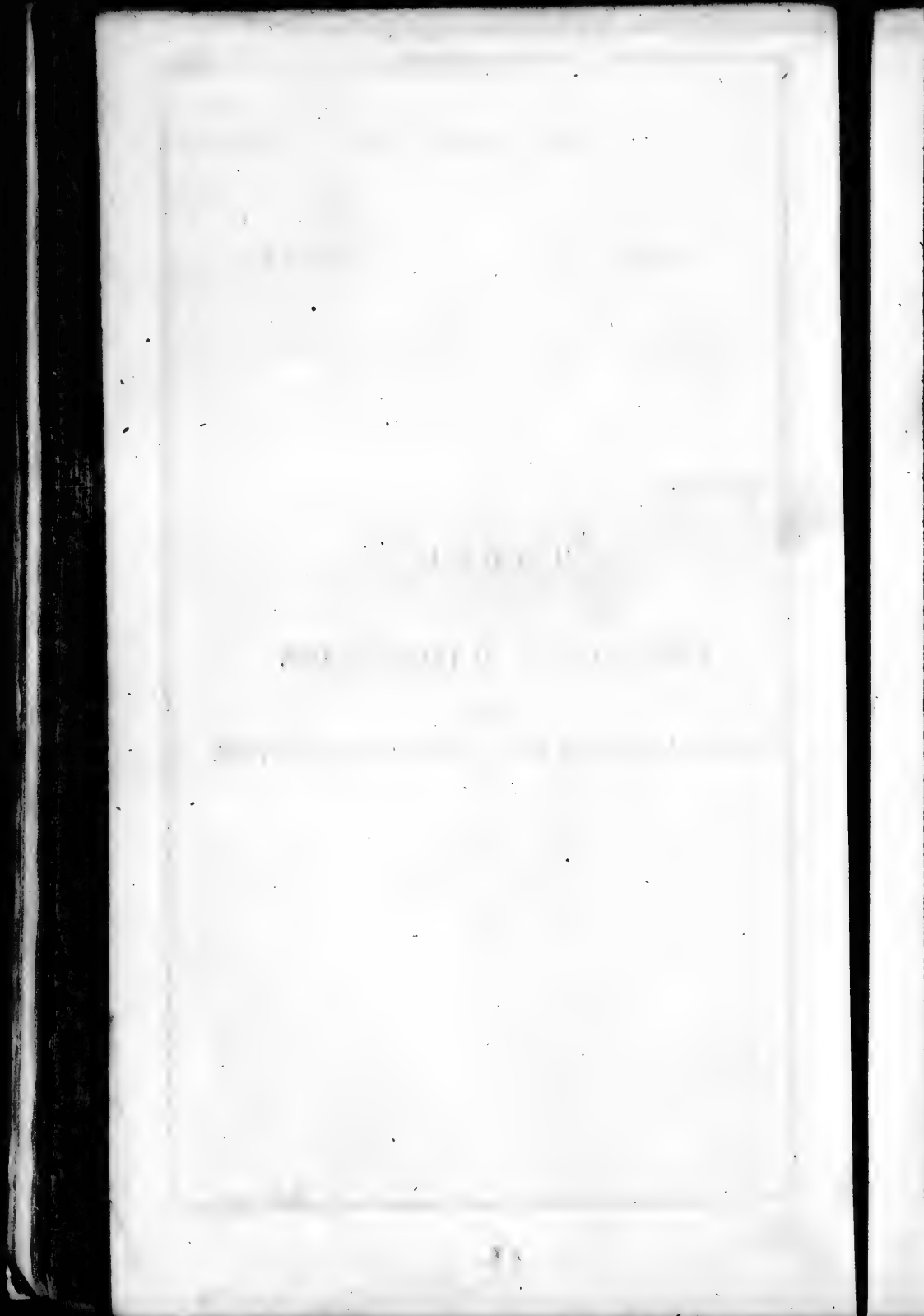
1959 lines

early 305

three wine

CABLE

A  
TABLE  
OF THE  
LATITUDES AND LONGITUDES  
OF THE  
PRINCIPAL PLACES ON THE EARTH'S SURFACE.



A

# T A B L E

OF THE

## LATITUDES and LONGITUDES

OF THE

### PRINCIPAL PLACES ON THE EARTH'S SURFACE.

A

| Names of Places.     | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H. W. |
|----------------------|-------|-----------------|------------|-------------|------------|-------|
|                      |       |                 |            | In Degrees. | In Time.   |       |
|                      |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Abbeville            | Eur.  | France          | 50 7 4 N   | 1 49 43 E   | 0 7 19 E   |       |
| Abo                  | Eur.  | Finland         | 60 27 10 N | 22 13 30 E  | 1 28 54 E  |       |
| Achem                | Asia  | Sumatra         | 5 22 0 N   | 95 34 0 E   | 6 22 16 E  |       |
| Adventure (Bay)      | Asia  | N. Holland      | 43 23 0 S  | 147 30 0 E  | 9 50 0 E   |       |
| Adventure (Isle)     | Asia  | Pac. Ocean      | 17 5 15 S  | 144 17 45 W | 9 37 11 W  |       |
| Agde                 | Eur.  | France          | 43 18 43 N | 3 27 55 E   | 0 13 52 E  |       |
| Agen                 | Eur.  | France          | 44 12 22 N | 0 36 20 E   | 0 2 25 E   |       |
| St. Agnes (Lights)   | Eur.  | Scillies        | 49 56 0 N  | 6 46 0 W    | 0 27 4 W   |       |
| Agra                 | Asia  | India           | 26 43 0 N  | 76 44 0 E   | 5 6 56 E   |       |
| Aire                 | Eur.  | France          | 43 41 52 N | 4 55 51 E   | 0 19 43 E  |       |
| Aix                  | Eur.  | France          | 43 21 48 N | 5 26 32 E   | 0 21 46 E  |       |
| Alby                 | Eur.  | France          | 43 55 36 N | 2 8 18 E    | 0 8 83 E   |       |
| Aleppo               | Asia  | Turkey          | 35 11 25 N | 37 20 0 E   | 2 28 40 E  |       |
| Alexandretta         | Asia  | Syria           | 36 35 27 N | 36 15 0 E   | 2 25 0 E   |       |
| Alexandria           | Af.   | Egypt           | 31 11 28 N | 30 10 22 E  | 2 0 41 E   |       |
| Algiers              | Af.   | Algiers         | 36 49 30 N | 2 12 45 E   | 0 8 51 E   |       |
| Amboise              | Eur.  | France          | 47 24 54 N | 0 59 7 W    | 0 3 56 W   |       |
| Ambrym (Isle)        | Asia  | Pac. Ocean      | 16 9 30 S  | 168 12 30 E | 11 12 50 E |       |
| Amiens               | Eur.  | France          | 49 53 43 N | 2 17 56 E   | 0 9 12 E   |       |
| Amsterdam            | Eur.  | Holland         | 52 21 56 N | 4 51 30 E   | 0 19 26 E  | 3 0   |
| Amsterdam (Isle)     | Asia  | Pac. Ocean      | 21 9 0 S   | 174 46 0 W  | 11 39 4 W  | 8 30  |
| Ancona               | Eur.  | Italy           | 43 37 54 N | 13 28 52 E  | 0 53 56 E  |       |
| Angers               | Eur.  | France          | 47 28 9 N  | 0 33 15 W   | 0 2 13 W   |       |
| Angoulême            | Eur.  | France          | 45 38 57 N | 0 9 15 E    | 0 0 26 E   |       |
| Angra                | Eur.  | Tercera         | 38 39 0 N  | 27 12 15 W  | 1 48 49 W  |       |
| Annamocka            | Asia  | Pac. Ocean      | 20 16 30 S | 174 30 30 W | 11 38 2 W  |       |
| St. Anthony's (Cape) | Am.   | Staten Land     | 54 46 48 S |             |            |       |
| Antibes              | Eur.  | France          | 43 54 43 N | 7 7 20 E    | 0 28 29 E  |       |
| Antigua (St. John's) | Am.   | Carib. Sea      | 17 4 30 N  | 62 9 0 W    | 4 8 36 W   |       |
| Antwerp              | Eur.  | Flanders        | 51 13 15 N | 4 22 45 E   | 0 17 31 E  | 6 0   |
| Anvers               | Eur.  | Netherlands     | 51 13 15 N | 4 24 15 E   | 0 17 37 E  |       |
| Apæ (Isle)           | Asia  | Pac. Ocean      | 16 46 15 S | 168 27 30 E | 11 13 50 E |       |
| Aracta               | Asia  | Turkey          | 36 1 0 N   | 38 50 0 E   | 2 35 20 E  |       |

*The Latitudes and Longitudes of Places.*

| Names of Places.         | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H. W. |
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| Archangel                | Eur.  | Russia          | 64 33 36 N | 38 59 15 E  | 2 35 57 E  | 6 0   |
| Arica                    | Am.   | Peru            | 18 26 38 S | 70 25 0 W   | 4 41 40 W  |       |
| Aries                    | Eur.  | France          | 43 40 28 N | 4 37 24 E   | 0 18 30 E  |       |
| Arras                    | Eur.  | France          | 50 17 30 N | 2 46 12 E   | 0 11 5 E   |       |
| Ascension (Isle)         | Af.   | S. At. Ocean    | 7 57 0 S   | 13 59 0 W   | 0 55 56 W  |       |
| Athens                   | Eur.  | Turkey          | 38 5 0 N   | 23 52 30 E  | 1 35 30 E  |       |
| Auch                     | Eur.  | France          | 43 38 39 N | 0 34 56 E   | 0 2 18 E   |       |
| St. Augustine            | Af.   | Madagascar      | 23 35 29 S | 43 8 0 E    | 2 52 32 E  |       |
| Aurillac                 | Eur.  | France          | 44 55 10 N | 2 27 0 W    | 0 9 48 W   |       |
| Aurora (Isle)            | Asia  | Pac. Ocean      | 15 8 0 N   | 168 17 0 E  | 11 13 8 E  |       |
| <b>B</b>                 |       |                 |            |             |            |       |
| Autun                    | Eur.  | France          | 46 56 48 N | 4 17 44 E   | 0 17 11 E  |       |
| Auxerre                  | Eur.  | France          | 47 47 57 N | 3 34 6 E    | 0 14 16 E  |       |
| Auxonne                  | Eur.  | France          | 47 11 24 N | 5 23 35 E   | 0 21 34 E  |       |
| Avignon                  | Eur.  | France          | 43 56 58 N | 4 48 10 E   | 0 19 13 E  |       |
| Avranches                | Eur.  | France          | 48 41 21 N | 1 21 51 W   | 0 5 27 W   |       |
| Babelmandel Straits      | Af.   | Abyssinia       | 12 50 0 N  | 43 50 0 E   | 2 55 20 E  |       |
| Babylon (Ancient)        | Asia  | Mesopotam.      | 33 0 0 N   | 42 46 30 E  | 2 51 6 E   |       |
| Bagdad                   | Asia  | Mesopotam.      | 33 19 40 N | 44 24 30 E  | 2 57 38 E  |       |
| Balafore                 | Asia  | India           | 21 20 0 N  | 86 0 0 E    | 5 44 0 E   |       |
| Ballabea (Isle)          | Asia  | N. Caledonia    | 20 7 0 S   | 164 22 0 E  | 10 57 28 E |       |
| Banguay (Peak)           | Asia  | Malacca         | 7 18 0 N   | 117 17 30 E | 7 49 10 E  |       |
| Bantry Bay               | Eur.  | Ireland         | 51 26 0 N  | 10 10 0 W   | 0 40 40 W  |       |
| Barbadoes, B. Town       | Am.   | Atl. Ocean      | 13 0 0 N   | 59 50 0 W   | 3 59 20 W  |       |
| Barbas (Cape)            | Af.   | Sanhaga         | 22 15 30 N | 16 40 0 W   | 1 6 40 W   |       |
| Barbuda (Isle)           | Am.   | Atl. Ocean      | 17 49 45 N | 61 50 0 W   | 4 7 20 W   |       |
| Barcelona                | Eur.  | Spain           | 41 23 0 N  | 2 13 0 E    | 0 8 52 E   |       |
| Barnevelt's (Isle)       | Am.   | T. del Fuogo    | 55 49 0 S  | 66 58 0 W   | 4 27 52 W  |       |
| St. Bartholomew's (Isle) | Asia  | N. Hebrides     | 15 42 0 S  | 167 17 30 E | 11 9 10 E  |       |
| Basle                    | Eur.  | Switzerland     | 47 35 0 N  | 7 29 30 E   | 0 29 58 E  |       |
| Bassa Terre              | Am.   | Guadaloupe      | 15 59 30 N | 61 59 15 W  | 4 7 57 W   |       |
| Betavia                  | Asia  | Java            | 6 12 0 S   | 106 53 46 E | 7 7 35 E   |       |
| Beth                     | Eur.  | England         | 51 22 30 N | 2 21 30 W   | 0 9 26 W   |       |
| Bayeux                   | Eur.  | France          | 49 16 34 N | 0 42 11 W   | 0 2 49 W   |       |
| Bayonne                  | Eur.  | France          | 43 29 15 N | 1 28 41 W   | 0 5 55 W   | 3 30  |
| Beachy Head              | Eur.  | England         | 50 44 30 N | 0 19 40 E   | 0 1 19 E   | 0 10  |
| Bear (Isle)              | Am.   | Hudf. Bay       | 54 34 0 N  | 79 56 0 W   | 5 19 44 W  | 12 0  |
| Beauvois                 | Eur.  | France          | 49 26 0 N  | 2 4 42 E    | 0 8 19 E   |       |
| Belle Isle               | Eur.  | France          | 47 17 17 N | 3 5 0 W     | 0 12 20 W  | 2 30  |
| Bembridge Point          | Eur.  | Isle of Wt.     | 50 40 15 N | 1 4 45 W    | 0 4 19 W   |       |
| Bencoolen                | Asia  | Sumatra         | 3 49 16 S  | 102 10 30 E | 6 48 42 E  |       |
| Berlin                   | Eur.  | Germany         | 52 31 30 N | 13 22 0 E   | 0 53 28 E  |       |
| Bermudas (Isle)          | Am.   | Atl. Ocean      | 32 35 0 N  | 63 28 0 W   | 4 13 52 E  | 7 0   |
| Besançon                 | Eur.  | France          | 47 14 12 N | 6 2 46 E    | 0 24 11 E  |       |
| Bessiers                 | Eur.  | France          | 43 20 23 N | 3 12 24 E   | 0 12 50 E  |       |
| Blanco (Cape)            | Af.   | Negroland       | 20 55 30 N | 17 10 0 W   | 1 8 40 W   | 9 45  |
| Blanco (Cape)            | Am.   | Patagonia       | 47 20 0 S  | 64 42 0 W   | 4 18 48 W  |       |
| Blois                    | Eur.  | France          | 47 35 20 N | 1 20 10 E   | 0 5 20 E   |       |
| Badajoz (Cape)           | Af.   | Negroland       | 26 12 30 N | 14 27 0 W   | 0 57 48 W  | 0 0   |
| Bolabola (Isle)          | Asia  | Pac. Ocean      | 16 32 30 S | 151 52 0 W  | 10 7 28 W  |       |
| Bologna                  | Eur.  | France          | 50 43 33 N | 1 36 33 E   | 0 6 26 E   | 10 30 |
| Bologna                  | Eur.  | Italy           | 44 29 36 N | 11 51 15 E  | 0 45 25 E  |       |

# INTRODUCTION.

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## The Latitudes and Longitudes of Places.

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| Names of Places.      | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H.W.  |
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|                       |       |                 |            | In Degrees. | In Time.   |       |
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| Bolshereikoi          | Asia  | Siberia         | 52 54 30 N | 156 37 30 E | 10 26 30 E |       |
| Bombay                | Asia  | India           | 18 56 40 N | 72 38 0 E   | 4 50 32 E  |       |
| Bonavilla (Isle)      | Af.   | Atl. Ocean      | 16 6 0 N   | 22 47 15 W  | 1 31 9 W   |       |
| Boston                | Am.   | N. England      | 42 22 11 N | 70 59 0 W   | 4 43 56 W  |       |
| Botany Bay            | Asia  | N. Holland      | 34 0 0 S   | 151 21 0 E  | 10 5 24 E  |       |
| Botany (Island)       | Asia  | N. Caledonia    | 22 26 40 S | 167 16 45 E | 11 9 7 E   |       |
| Bourbon (Isle)        | Af.   | Ind. Ocean      | 20 51 43 S | 53 30 0 E   | 3 42 0 E   |       |
| Bourdeaux.            | Eur.  | France          | 44 50 14 N | 0 34 14 W   | 0 2 17 W   | 3 0   |
| Bourges               | Eur.  | France          | 47 4 59 N  | 2 43 45 E   | 0 9 35 E   |       |
| Breslaw               | Eur.  | Silesia         | 51 3 0 N   | 17 8 45 E   | 1 8 35 E   |       |
| Brest                 | Eur.  | France          | 48 22 42 N | 4 29 19 W   | 0 17 57 W  | 3 45  |
| Bridge Town           | Am.   | Barbadoes       | 13 5 0 N   | 58 35 0 W   | 3 54 20 W  |       |
| St. Brieux            | Eur.  | France          | 48 31 21 N | 2 43 17 W   | 0 10 53 W  |       |
| Brighton Start-House  | Eur.  | England         | 50 49 48 N | 0 6 28 W    | 0 0 26 W   |       |
| Bristol (Cape)        | Am.   | Sandw. Land     | 59 2 30 S  | 26 51 0 W   | 1 47 24 W  |       |
| Brussels              | Eur.  | Brabant         | 50 50 59 N | 4 21 15 E   | 0 17 25 E  |       |
| Buenos Ayres          | Am.   | Brazil          | 34 35 26 S | 58 31 15 W  | 3 54 5 W   |       |
| Bukarest              | Eur.  | Wallachia       | 44 26 45 N | 26 8 0 E    | 1 44 32 E  |       |
| Buller (Cape)         | Am.   | S. Georgia      | 53 58 30 S | 37 40 0 W   | 2 30 40 W  |       |
| Burgo (Isle)          | Am.   | Newfoundl.      | 47 36 20 N | 57 36 30 W  | 3 50 24 W  |       |
| Burlings              | Eur.  | Portugal        | 39 20 0 N  | 9 36 45 W   | 0 38 27 W  |       |
| C                     |       |                 |            |             |            |       |
| Cabello (Port)        | Am.   | Terra Firma     | 10 30 50 N | 67 32 0 W   | 4 30 8 W   |       |
| Cadia                 | Eur.  | Spain           | 36 32 0 N  | 6 16 15 W   | 0 25 5 W   | 4 30  |
| Caen                  | Eur.  | France          | 49 11 12 N | 0 21 53 W   | 0 1 28 W   | 9 0   |
| Cahors                | Eur.  | France          | 44 26 49 N | 1 26 22 E   | 0 5 45 E   |       |
| Cairo                 | Af.   | Egypt           | 30 3 12 N  | 31 18 16 E  | 2 5 49 E   |       |
| Calais                | Eur.  | France          | 50 57 32 N | 1 51 1 E    | 0 7 24 E   | 11 30 |
| Calao                 | Am.   | Peru            | 12 1 53 S  | 76 58 0 W   | 5 7 52 W   |       |
| Calcutta (F. Will.)   | Asia  | India           | 22 34 45 N | 88 29 30 E  | 5 53 58 E  |       |
| Calmar                | Eur.  | Sweden          | 56 40 30 N | 16 21 45 E  | 1 5 27 E   |       |
| Cambray               | Eur.  | France          | 50 10 37 N | 3 13 32 E   | 0 12 54 E  |       |
| Cambridge             | Eur.  | England         | 52 12 35 N | 0 4 15 E    | 0 0 17 E   |       |
| Cambridge             | Am.   | N. England      | 42 23 28 N | 71 4 0 W    | 4 44 16 W  |       |
| Canary (Isle) NE. Pt. | Af.   | Canaries        | 28 13 0 N  | 15 38 45 W  | 1 2 35 W   | 3 0   |
| Candia (Isle)         | Eur.  | Medit. Sea      | 35 18 35 N | 25 18 0 E   | 1 41 12 E  |       |
| Candlemas Isles       | Am.   | Sandw. Land     | 57 10 0 S  | 27 13 0 W   | 1 48 22 W  |       |
| Canso (Port)          | Am.   | Nova Scotia     | 45 20 7 N  | 60 55 0 W   | 4 3 40 W   |       |
| Canterbury Cathedral  | Eur.  | England         | 51 18 26 N | 1 4 53 E    | 0 4 19 E   |       |
| Canton                | Asia  | China           | 23 8 9 N   | 113 2 30 E  | 7 33 10 E  |       |
| Cape Capricorn        | Asia  | N. Holland      | 23 26 40 S | 108 54 0 W  | 13 55 57 W |       |
| Cape Clear            | Eur.  | Ireland         | 51 15 0 N  | 9 30 0 W    | 0 39 20 W  | 4     |
| Cape Colinet          | Asia  | N. Caledonia    | 20 30 0 S  | 164 56 0 E  | 10 59 44 E |       |
| Cape Comorin          | Asia  | India           | 7 56 0 N   | 78 5 0 E    | 5 22 20 E  |       |
| Cape Coronation       | Asia  | N. Caledonia    | 22 5 0 S   | 167 8 0 E   | 11 8 32 E  |       |
| Cape Cumberland       | Asia  | N. Hebrides     | 14 39 30 S | 166 47 0 E  | 11 7 8 E   |       |
| Cape Florida          | Am.   | Florida         | 25 44 0 N  | 80 44 0 W   | 5 22 56 W  |       |
| Cape Howe             | Asia  | N. Holland      | 57 31 57 S | 210 39 3 W  | 4 2 36 W   |       |
| Cape Table            | Asia  | N. Zealand      | 39 6 40 S  | 182 57 41 W | 12 7 51 W  |       |
| Carlitroon            | Eur.  | Sweden          | 56 6 57 N  | 15 26 15 E  | 1 1 45 E   |       |

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*The Latitudes and Longitudes of Places.*

| Names of Places,         | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H.W.  |
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|                          |       |                 |            | In Degrees. | In Time.   |       |
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| Carthagens               | Eur.  | Spain           | 37 37 0 N  | 1 8 30 W    | 0 4 34 W   |       |
| Carthagens               | Am.   | Terra Firma     | 10 25 19 N | 75 42 54 W  | 5 2 52 W   |       |
| Casán                    | Asia  | Siberia         | 55 43 58 N | 49 8 15 E   | 3 16 33 E  |       |
| Cassel                   | Eur.  | Germany         | 51 19 20 N | 9 35 3 E    | 0 38 20 E  |       |
| Castres                  | Eur.  | France          | 43 36 11 N | 2 14 16 E   | 0 8 57 E   |       |
| St. Catherine's (Isle)   | Am.   | Atl. Ocean      | 27 35 0 S  | 49 17 0 W   | 3 17 30 W  |       |
| Cavan                    | Eur.  | Ireland         | 54 51 41 N | 7 23 0 W    | 0 29 32 W  |       |
| Cayenne                  | Am.   | Isle Cayenne    | 4 56 15 N  | 52 15 0 W   | 3 29 0 W   |       |
| Ceylon, S. Point         | Asia  | India           | 5 47 0 N   | 81 2 0 E    | 5 24 8 E   |       |
| Cette                    | Eur.  | France          | 43 23 51 N | 3 42 7 E    | 0 14 48 E  |       |
| Challón                  | Eur.  | France          | 46 46 54 N | 4 51 27 E   | 0 19 24 E  |       |
| Chalons                  | Eur.  | France          | 48 57 28 N | 4 21 29 E   | 0 17 26 E  |       |
| Chandernagor             | Asia  | India           | 22 51 26 N | 88 29 15 E  | 5 53 27 E  |       |
| Q. Charlotte Sound       | Asia  | N. Zealand      | 41 5 58 S  | 174 13 32 E | 11 36 54 E | 9 0   |
| Q. Charlotte Foreland    | Asia  | N. Caledonia    | 22 15 0 S  | 167 12 45 E | 11 8 51 E  |       |
| Q. Charlotte's Cape      | Am.   | S. Georgia      | 54 32 0 S  | 36 11 30 W  | 2 24 46 W  |       |
| Chariton Isle            | Am.   | Hudf. Bay       | 52 3 0 N   | 79 5 0 W    | 5 16 20 W  |       |
| Chartres                 | Eur.  | France          | 48 26 54 N | 1 29 35 E   | 0 5 56 E   |       |
| Cherbourg                | Eur.  | France          | 49 38 31 N | 1 37 18 W   | 0 6 29 W   | 7 30  |
| Christmas Sound          | Am.   | T. del Fuego    | 55 21 57 S | 70 2 50 W   | 4 40 11 W  | 2 30  |
| St. Christopher's (Isle) | Am.   | Carib. Sea      | 17 25 0 N  | 62 43 0 W   | 4 10 52 W  |       |
| Churchill River          | Am.   | Hudf. Bay       | 58 47 32 N | 94 7 30 W   | 6 16 30 W  | 7 20  |
| Civita Vecchia           | Eur.  | Italy           | 42 5 24 N  | 15 46 15 E  | 0 47 5 E   |       |
| Clerke's Isles           | Am.   | Atl. Ocean      | 55 5 30 S  | 34 42 0 W   | 2 18 48 W  |       |
| Clermont                 | Eur.  | France          | 45 46 44 N | 3 5 2 E     | 0 12 20 E  |       |
| Cochin                   | Asia  | India           | 9 33 0 N   | 75 35 0 E   | 5 2 20 E   |       |
| Colmar                   | Eur.  | France          | 48 4 44 N  | 7 22 11 E   | 0 29 29 E  |       |
| Cologne                  | Eur.  | Germany         | 50 55 21 N | 6 55 0 E    | 0 27 40 E  |       |
| Compiègne                | Eur.  | France          | 49 24 59 N | 2 49 41 E   | 0 11 10 E  |       |
| Conception               | Am.   | Chili           | 36 42 53 S | 72 40 0 W   | 4 50 40 W  |       |
| Constantinople           | Eur.  | Turkey          | 41 1 27 N  | 28 55 0 E   | 1 55 40 E  |       |
| Cooper's Isle            | Am.   | Atl. Ocean      | 54 57 0 S  | 36 4 20 W   | 2 24 17 W  |       |
| Copenhagen               | Eur.  | Denmark         | 55 41 4 N  | 12 35 15 E  | 0 50 21 E  |       |
| Coquimbo                 | Am.   | Chili           | 29 52 0 S  | 71 19 0 W   | 4 45 3 W   |       |
| Cork                     | Eur.  | Ireland         | 51 53 54 N | 8 28 15 W   | 0 33 53 W  | 6 30  |
| Corvo                    | Eur.  | Azores          | 39 42 0 N  | 31 6 0 W    | 2 4 24 W   |       |
| Courtaignes              | Eur.  | France          | 49 2 50 N  | 1 27 25 W   | 0 5 50 W   |       |
| Cowes West, Fort         | Eur.  | Isle of Wight   | 50 46 18 N | 1 17 17 W   | 0 5 9 W    | 10 30 |
| Cracow                   | Eur.  | Poland          | 49 59 20 N | 19 50 0 E   | 1 19 20 E  |       |
| Cremsmünster             | Eur.  | Germany         | 48 3 29 N  | 14 7 0 E    | 0 59 28 E  |       |
| Croific                  | Eur.  | France          | 47 27 40 N | 2 31 42 W   | 0 10 7 W   |       |
| Cummin (Isle)            | Asia  | Pae. Ocean      | 31 40 0 N  | 121 4 0 E   | 8 4 16 E   |       |
| Cyprus                   | Asia  | Syria           | 34 30 0 N  | 33 16 0 E   | 2 13 4 E   |       |
| D                        |       |                 |            |             |            |       |
| Dentaie                  | Eur.  | Poland          | 54 21 9 N  | 18 38 0 E   | 1 14 32 E  |       |
| Dardanella's Straits     | Eur.  | Turkey          | 40 10 0 N  | 26 26 0 E   | 1 45 44 E  |       |
| Dassen Island            | As.   | Caffres         | 33 25 0 S  | 18 2 0 E    | 1 12 8 E   |       |
| Dax                      | Eur.  | France          | 43 43 19 N | 1 3 16 W    | 0 4 13 W   |       |
| Deaf Castle              | Eur.  | England         | 51 13 5 N  | 1 23 59 E   | 0 5 36 E   |       |
| St. Dennis               | As.   | I. Bourbon      | 20 51 43 S | 55 30 0 E   | 3 42 0 E   |       |



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*The Latitudes and Longitudes of Places.*

| H.W.  | Names of Places.    | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H.W.  |
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|       |                     |       |                 |            | In Degrees. | In Time.   |       |
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|       | Diego (Cape)        | Am.   | T. d. Fuego     | 54 33 0 S  | 65 14 0 W   | 4 20 56 W  |       |
|       | Dieppe              | Eur.  | France          | 49 55 34 N | 1 4 29 E    | 0 4 18 E   | 10 30 |
|       | Dijon               | Eur.  | France          | 47 19 25 N | 5 1 50 E    | 0 20 7 E   |       |
|       | Dillingen           | Eur.  | Germany         | 48 34 22 N | 10 14 30 E  | 0 40 58 E  |       |
|       | Disappointm. (Cape) | Am.   | S. Georgia      | 54 58 0 S  | 36 15 0 W   | 2 25 0 W   |       |
|       | Disfada (Cape)      | Am.   | T. d. Fuego     | 55 4 15 S  | 74 18 0 W   | 4 57 12 W  |       |
|       | Dol                 | Eur.  | France          | 48 33 8 N  | 1 45 18 W   | 0 7 2 W    |       |
|       | Domingo Mole        | Asia  | Atl. Ocean      | 19 49 0 N  | 73 25 0 W   | 4 53 40 W  |       |
|       | Dominique (Isle)    | Am.   | Windw. Isles    | 15 18 23 N | 61 27 55 W  | 4 5 52 W   |       |
|       | Dorchester Church   | Eur.  | England         | 50 42 58 N | 2 25 40 W   | 0 9 43 W   |       |
|       | Douay               | Eur.  | Flanders        | 50 22 12 N | 3 4 47 E    | 0 12 19 E  |       |
|       | Dover               | Eur.  | England         | 51 7 47 N  | 1 18 30 E   | 0 5 14 E   | 11 30 |
|       | Dreux               | Eur.  | France          | 48 44 17 N | 1 21 24 E   | 0 5 26 E   |       |
|       | Drontheim           | Eur.  | Norway          | 63 26 2 N  | 10 22 0 E   | 0 41 28 E  |       |
|       | Dublin              | Eur.  | Ireland         | 53 21 11 N | 6 6 30 W    | 0 24 26 W  | 9 15  |
|       | Dungess             | Eur.  | England         | 50 52 20 N | 0 59 6 E    | 0 3 56 E   | 9 45  |
|       | Dunkirk             | Eur.  | France          | 51 2 11 N  | 2 22 23 E   | 0 9 30 E   |       |
|       | Durham              | Eur.  | England         | 54 43 45 N | 1 15 0 W    | 0 5 0 W    |       |
|       | Duskey Bay          | Asia  | N. Zealand      | 45 47 27 S | 166 18 9 E  | 11 5 13 E  | 10 57 |
|       | Dunnoe              | Eur.  | England         | 50 33 30 N | 1 16 20 W   | 0 5 5 W    | 9 45  |
| E     |                     |       |                 |            |             |            |       |
|       | Eacowe (Isle)       | Asia  | Pac. Ocean      | 21 24 0 S  | 174 30 0 W  | 11 38 0 W  | 2 0   |
|       | Easter Island       | Am.   | Pac. Ocean      | 27 6 30 S  | 109 46 45 W | 7 19 7 W   | 4 30  |
|       | Edinburgh           | Eur.  | Scotland        | 55 57 57 N | 3 12 15 W   | 0 12 49 W  | 5 30  |
|       | Edystone            | Eur.  | Eng. Chan.      | 50 8 0 N   | 4 24 0 W    | 0 17 24 W  |       |
|       | Elfsore             | Eur.  | Denmark         | 56 0 0 N   | 13 35 0 E   | 0 54 20 E  |       |
|       | Embsen              | Eur.  | Germany         | 53 5 3 N   | 7 26 0 E    | 0 29 44 E  |       |
|       | Embrun              | Eur.  | France          | 44 34 0 N  | 6 29 0 E    | 0 25 56 E  |       |
|       | Enatum (Isle)       | Asia  | Pac. Ocean      | 20 10 0 S  | 170 4 0 E   | 11 20 16 E |       |
|       | Endeavour River     | Asia  | N. Holland      | 15 27 11 S | 124 50 0 W  | 14 19 20 W |       |
|       | English Road        | Asia  | Eacowe          | 21 20 30 S | 174 34 0 W  | 11 38 16 W |       |
|       | Erramanga (Isle)    | Asia  | Pac. Ocean      | 18 26 30 S | 169 18 30 E | 11 17 14 E |       |
|       | Erzerum             | Asia  | Armenia         | 39 56 35 N | 48 35 45 E  | 3 14 23 E  |       |
|       | Eutachia (Town)     | Am.   | Carib Sea       | 17 29 0 N  | 63 10 0 W   | 4 12 40 W  |       |
|       | Evout's Isles       | Am.   | T. d. Fuego     | 53 34 30 S | 66 39 0 W   | 4 27 56 W  |       |
|       | Everux              | Eur.  | France          | 49 1 30 N  | 1 8 54 E    | 0 4 35 E   |       |
|       | Exeter              | Eur.  | England         | 50 44 0 N  | 3 34 30 W   | 0 14 30 W  |       |
| F     |                     |       |                 |            |             |            |       |
|       | Falmouth            | Eur.  | England         | 50 8 0 N   | 5 2 30 W    | 0 20 10 W  | 5 30  |
|       | Falso (Cape)        | As.   | Caffres         | 34 16 0 S  | 18 44 0 E   | 1 14 56 E  |       |
|       | Falso Bay           | As.   | Caffres         | 34 10 0 S  | 18 33 0 E   | 1 14 12 E  |       |
|       | Farewell (Cape)     | Am.   | Greenland       | 59 38 0 N  | 42 42 0 W   | 2 50 48 W  |       |
|       | Farewell (Cape)     | Asia  | N. Zealand      | 40 37 0 S  | 172 41 30 E | 11 30 46 E |       |
|       | Foyal Town          | Eur.  | Azores          | 38 32 20 N | 28 41 5 W   | 1 54 44 W  | 2 20  |
|       | Ferdinand Noronha   | Am.   | Brazil          | 3 56 20 S  | 32 38 0 W   | 2 10 32 W  |       |
|       | Ferrara             | Eur.  | Italy           | 44 49 56 N | 11 36 10 E  | 0 46 25 E  |       |
|       | Ferro Isle (Town)   | At.   | Canaries        | 27 47 20 N | 17 45 50 W  | 1 13 3 W   |       |
|       | Fuisterre (Cape)    | Eur.  | Spain           | 42 54 0 N  | 9 17 10 W   | 0 37 9 W   |       |
|       | Flamborough Head    | Eur.  | England         | 54 8 0 N   | 0 11 0 E    | 0 0 44 E   |       |

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*The Latitudes and Longitudes of Places.*

| Names of Places.       | Cont. | Sea or Country. | Latitude.  | Longitude   |            | H.W.  |
|------------------------|-------|-----------------|------------|-------------|------------|-------|
|                        |       |                 |            | In Degrees. | In Time.   |       |
|                        |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Florence               | Eur.  | Italy           | 43 46 30 N | 11 3 30 E   | 0 44 14 E  |       |
| Flores                 | Eur.  | Azores          | 39 34 0 N  | 31 0 0 W    | 2 4 0 W    |       |
| St. Flour              | Eur.  | France          | 45 1 55 N  | 3 5 30 E    | 0 12 22 E  |       |
| Fortaventure (W.Pt.)   | Af.   | Canaries        | 28 4 0 N   | 14 31 30 W  | 0 58 6 W   |       |
| Foul Point             | Af.   | Madagascar      | 17 40 14 S | 49 53 0     | 3 19 32 E  |       |
| France (Isle of)       | Af.   | Ind. Ocean      | 20 9 45 S  | 57 28 0 E   | 3 49 52 E  |       |
| Francfort (on the Ma.) | Eur.  | Germany         | 49 55 0 N  | 8 35 0 E    | 0 34 20 E  |       |
| Francois (Cape)        | Am.   | Hisp. Isl.      | 19 46 30 N | 72 18 0 W   | 4 49 12 W  |       |
| Old Cape Francois      | Am.   | Hisp. Isl.      | 19 40 30 N | 70 2 0 W    | 4 40 8 W   |       |
| Frauenburgh            | Eur.  | Prussia         | 54 22 15 N | 20 7 30 E   | 1 20 30 E  |       |
| Frejus                 | Eur.  | France          | 43 25 52 N | 6 43 54 E   | 0 26 56 E  |       |
| Frekel (Cape)          | Eur.  | France          | 48 41 3 N  | 6 0 0 W     | 0 24 0 W   |       |
| Friesland's Peak       | Am.   | Sandw. Land     | 59 2 0 S   | 26 55 30 W  | 1 47 42 W  |       |
| Fronfac (Strait)       | Am.   | Nova Scotia     | 45 36 57 N | 61 19 30 W  | 4 5 18 W   |       |
| Fuego (Isle)           | Af.   | Cape Verd       | 14 56 45 N | 24 28 0 W   | 1 37 52 W  |       |
| Funchal                | Af.   | Madeira         | 32 37 40 N | 17 6 15 W   | 1 8 25 W   | 12 4  |
| Furneaux Island        | Asia  | Pac. Ocean      | 17 11 0 S  | 143 6 40 W  | 9 28 27 W  |       |
| G                      |       |                 |            |             |            |       |
| Gap                    | Eur.  | France          | 44 33 37 N | 6 4 47 E    | 0 24 19 E  |       |
| Gabey                  | Afr.  | N. Guinea       | 0 6 0 S    | 126 23 45 E | 8 25 35 E  |       |
| Genes                  | Eur.  | Italy           | 44 25 0 N  | 8 25 45 E   | 0 34 23 E  |       |
| Geneva                 | Eur.  | Savoy           | 46 12 0 N  | 6 0 0 E     | 0 24 0 E   |       |
| Genoa                  | Eur.  | Italy           | 44 25 0 N  | 8 56 37 E   | 0 34 23 E  |       |
| St. George (Isle)      | Eur.  | Azores          | 38 39 0 N  | 28 0 0 W    | 1 52 0 W   |       |
| St. George (Town)      | Am.   | Bermudas        | 32 45 0 N  | 63 35 0 W   | 4 14 20 W  |       |
| St. George (Fort)      | Asia  | India           | 13 4 54 N  | 80 28 45 E  | 5 21 55 E  |       |
| St. George (Cape)      | Afr.  | N. Britain      | 4 53 30 S  | 153 8 45 E  | 10 12 35 E |       |
| George (Cape)          | Am.   | S. Georgia      | 54 17 0 S  | 36 32 30 W  | 2 26 10 W  |       |
| Ghent                  | Eur.  | Flanders        | 51 3 0 N   | 3 43 45 E   | 0 14 55 E  |       |
| Gibraltar              | Eur.  | Spain           | 36 6 30 N  | 5 22 0 W    | 0 21 28 W  | 0 0   |
| Gilbert's Isle         | Am.   | T. del Fuego    | 55 13 0 S  | 71 6 45 W   | 4 44 11 W  |       |
| Glasgow                | Eur.  | Scotland        | 55 51 32 N | 4 15 0 W    | 0 17 0 W   |       |
| Goa                    | Asia  | India           | 15 31 0 N  | 73 45 0 E   | 4 55 0 E   |       |
| Goat Isle              | Asia  | Indian Ocean    | 13 55 0 N  | 120 2 0 E   | 8 0 8 E    |       |
| Gomera (Isle)          | Af.   | Canaries        | 28 5 40 N  | 17 8 0 W    | 1 8 32 W   |       |
| Good Hope (Isle)       | Af.   | Caffres         | 34 29 0 S  | 18 23 15 E  | 1 13 33 E  | 3 0   |
| Good Hope (Town)       | Af.   | Caffres         | 33 55 42 S | 18 23 15 E  | 1 13 33 E  | 2 30  |
| Goree (Isle)           | Af.   | Atl. Ocean      | 14 40 10 N | 17 25 0 W   | 1 9 40 W   | 1 30  |
| Gottenburgh            | Eur.  | Sweden          | 57 42 0 N  | 11 38 45 E  | 0 46 35 E  |       |
| Gottingen (Obsev.)     | Eur.  | Germany         | 51 31 54 N | 9 53 0 E    | 0 39 32 E  |       |
| Granville              | Eur.  | France          | 48 50 16 N | 1 36 15 W   | 0 6 25 W   | 7 0   |
| Grasse                 | Eur.  | France          | 43 39 19 N | 6 55 9 E    | 0 27 41 E  |       |
| Gratiola               | Eur.  | Azores          | 39 2 0 N   | 27 58 0 W   | 1 51 52 W  |       |
| Grata                  | Eur.  | Germany         | 47 4 9 N   | 15 25 45 E  | 1 1 48 E   |       |
| Gravelines             | Eur.  | Flanders        | 50 59 4 N  | 2 7 32 E    | 0 8 30 E   | 0 0   |
| Greenwich (Obser.)     | Eur.  | England         | 51 28 40 N | 0 0 0       | 0 0 0      |       |
| Greofnoble             | Eur.  | France          | 45 11 42 N | 5 43 34 E   | 0 22 54    |       |
| Gryphwald              | Eur.  | Germany         | 54 4 25 N  | 13 38 30 E  | 0 54 34    |       |
| Gundaloupe             | Am.   | Carib. Sea      | 15 59 30 N | 61 48 15 W  | 4 7 13 W   |       |
| Guayaquil              | Am.   | Peru            | 2 11 21 S  | 81 11 30 W  | 5 24 46 W  |       |

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| Names of Places.      | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H.W.  |
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|                       |       |                 |            | In Degrees. | In Time.   |       |
|                       |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Gurief                | Afia  | Siberia         | 47 7 7 N   | 51 56 0 E   | 3 27 44 E  |       |
| Guernsey              | Eur.  | Brit. Chan.     | 49 30 0 N  | 2 47 0 W    | 0 11 8 W   |       |
| H                     |       |                 |            |             |            |       |
| Hague                 | Eur.  | Netherlands     | 52 4 10 N  | 4 17 30 E   | 0 17 10 E  | 8 15  |
| Hamburgh              | Eur.  | Netherlands     | 53 33 3 N  | 10 1 11 E   | 0 39 20 E  | 6 0   |
| Hang-lip (Cape)       | Af.   | Caffres         | 34 16 0 S  | 18 44 0 E   | 1 14 56 E  |       |
| Hanover               | Eur.  | Germany         | 52 22 18 N | 9 48 15 E   | 0 38 57 E  |       |
| Harborough (Mark.)    | Eur.  | England         | 52 28 30 N | 0 57 25 W   | 0 3 50 W   |       |
| Harlem                | Eur.  | Netherlands     | 52 22 14 N | 4 37 0 E    | 0 18 28 E  |       |
| Haftings              | Eur.  | England         | 50 52 10 N | 0 41 10 E   | 0 2 45 W   |       |
| Havannah              | Am.   | Cuba            | 23 11 5 N  | 82 18 30 W  | 5 29 14 W  |       |
| Havre-de-grace        | Eur.  | France          | 49 29 14 N | 0 6 23 E    | 0 0 26 E   | 9 0   |
| Heefe (La)            | Eur.  | Netherlands     | 51 23 2 N  | 4 45 30 E   | 0 10 2 E   |       |
| St. Helena (Ja. Town) | Af.   | S. Atl. Ocean   | 15 55 0 S  | 5 49 0 W    | 0 23 16 W  |       |
| Henlopen (Cape)       | Am.   | Virginia        | 38 46 0 N  | 75 12 30 W  | 5 0 50 W   |       |
| Hernofand             | Eur.  | Sweden          | 62 38 0 N  | 17 53 0 E   | 1 11 32 E  |       |
| Hervey's Isle         | Afia  | Pac. Ocean      | 19 17 0 S  | 158 48 0 W  | 10 35 12 W |       |
| Hinchinbroke Isle     | Afia  | Pac. Ocean      | 17 25 0 S  | 168 38 0 E  | 11 14 32 E |       |
| Hoi Nghan             | Afia  | China           | 33 34 40 N | 118 49 30 E | 7 55 18 E  |       |
| Hogue (Cape La)       | Eur.  | France          | 49 44 40 N | 1 56 50 W   | 0 7 47 W   |       |
| Holyhead              | Eur.  | Wales           | 53 23 0 N  | 4 40 0 W    | 0 18 40 W  |       |
| Hood's Isle           | Afia  | Pac. Ocean      | 9 26 0 S   | 138 52 0 W  | 9 15 23 W  |       |
| Hoogstraeten          | Eur.  | Netherlands     | 51 24 44 N | 4 47 0 E    | 0 19 8 E   |       |
| Horn (Cape)           | Am.   | T. del Fuego    | 55 58 0 S  | 68 13 0 W   | 4 29 44 W  |       |
| Hout Bay              | Af.   | Caffres         | 34 3 0 S   | 18 19 0 E   | 1 13 16 E  |       |
| Howe's Isle           | Afia  | Pac. Ocean      | 16 46 30 S | 154 6 40 W  | 10 16 27 W |       |
| Huahine (Isle)        | Afia  | Pac. Ocean      | 16 44 0 S  | 151 6 0 W   | 10 4 24 W  |       |
| Hull                  | Eur.  | England         | 53 50 0 N  | 0 28 0 W    | 0 1 52 W   |       |
| Hurit Castle          | Eur.  | England         | 50 42 23 N | 1 32 45 W   | 0 6 11 W   |       |
| I, J                  |       |                 |            |             |            |       |
| Jaffa                 | Afia  | Syria           | 32 5 0 N   | 35 10 0 E   | 2 20 40 E  |       |
| Jamaica (Port-royal)  | Am.   | Atl. Ocean      | 18 0 0 N   | 76 44 30 W  | 5 6 58 W   |       |
| Jakutkoi              | Afia  | Siberia         | 62 1 30 N  | 129 47 45 E | 8 39 11 E  |       |
| Janeiro (Rio)         | Am.   | Brazil          | 22 54 10 S | 42 43 45 W  | 2 50 55 W  |       |
| Jaffy                 | Eur.  | Moldavia        | 47 8 30 N  | 27 29 45 E  | 1 49 59 E  |       |
| Java Head             | Afia  | Java            | 6 49 0 S   | 106 50 0 E  | 7 7 20 E   |       |
| Jerusalem             | Afia  | Palestine       | 31 46 34 N | 35 20 0 E   | 2 21 20 E  |       |
| St. Ildefonso's Isles | Am.   | T. del Fuego    | 55 51 0 S  | 69 21 0 W   | 4 37 52 W  |       |
| Immer (Isle)          | Afia  | Pac. Ocean      | 19 16 0 S  | 169 46 0 E  | 11 19 4 E  |       |
| Ingolstadt            | Eur.  | Germany         | 48 45 45 N | 11 22 30 E  | 0 45 30 E  |       |
| St. John's            | Am.   | Antigua         | 17 0 30 N  | 61 9 0 W    | 4 8 36 W   |       |
| St. John's            | Am.   | Newfoundl.      | 47 32 0 N  | 52 26 0 W   | 3 29 44 W  | 6 0   |
| Joppa                 | Afia  | Syria           | 32 45 0 N  | 36 0 0 W    | 2 24 0 W   |       |
| St. Joseph's          | Am.   | California      | 23 3 42 S  | 109 42 30 W | 7 18 50 W  |       |
| Irraunee (Isle)       | Afia  | Pac. Ocean      | 19 31 0 S  | 170 21 0 E  | 11 21 24 E |       |
| Mamabad               | Afia  | India           | 22 20 0 N  | 91 45 0 E   | 6 7 0 E    |       |
| Isle of Pines         | Afia  | Pac. Ocean      | 22 38 0 S  | 167 38 0 E  | 11 10 32 E |       |
| Isfahan               | Afia  | Perfia          | 32 25 0 N  | 52 50 0 E   | 3 31 20 E  |       |
| St. Juan (Cape)       | Am.   | Staten Land     | 54 47 10 S | 63 47 0 W   | 4 15 8 E   |       |

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| Names of Places.    | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H. W. |
|---------------------|-------|-----------------|------------|-------------|------------|-------|
|                     |       |                 |            | In Degrees. | In Time.   |       |
|                     |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Judda               | Asia  | Arabia          | 21 29 0 N  | 39 22 0 E   | 2 37 28 E  |       |
| St. Juliana (Port)  | Am.   | Patagonia       | 49 10 0 S  | 68 44 0 W   | 4 34 56 W  | 4 45  |
| Juthia              | Asia  | India           | 14 18 0 N  | 100 50 0 E  | 6 43 20 E  |       |
| K                   |       |                 |            |             |            |       |
| Kedgeroe            | Asia  | India           | 21 48 0 N  | 88 50 15 E  | 5 55 21 E  |       |
| Kiow                | Eur.  | Ukraine         | 50 27 0 N  | 30 27 30 E  | 4 1 50 E   |       |
| Kola                | Eur.  | Lapland         | 68 52 30 N | 33 0 30 E   | 2 12 2 E   |       |
| L                   |       |                 |            |             |            |       |
| Ladrone (Grand)     | Asia  | Pac. Ocean      | 22 2 0 N   | 113 56 0 E  | 7 35 44 E  |       |
| Laguna              | Am.   | Teneriffe       | 28 28 57 N | 16 18 15 W  | 1 5 13 W   |       |
| Lancarota (E. Pt.)  | Am.   | Canaries        | 29 14 0 N  | 13 26 0 W   | 0 53 44 W  |       |
| Landau              | Eur.  | France          | 49 11 38 N | 8 7 30 E    | 0 32 30 E  |       |
| Landscroon          | Eur.  | Sweden          | 55 52 31 N | 12 50 46 E  | 0 51 23 E  |       |
| Lands-End           | Eur.  | England         | 50 4 7 N   | 5 41 31 W   | 0 22 46 W  |       |
| Langres             | Eur.  | France          | 47 52 17 N | 5 19 23 E   | 0 21 18 E  |       |
| Lausanne            | Eur.  | Switzerland     | 46 31 5 N  | 6 45 15 E   | 0 27 1 E   |       |
| Lecloure            | Eur.  | France          | 43 56 2 N  | 0 36 53 E   | 0 2 28 E   |       |
| Leeds               | Eur.  | England         | 53 48 0 N  | 1 34 15 W   | 0 6 17 W   |       |
| Leghorn             | Eur.  | Italy           | 43 33 0 N  | 10 25 0 E   | 0 41 40 E  |       |
| Leicester           | Eur.  | England         | 52 38 0 N  | 1 8 30 W    | 0 4 34 W   |       |
| Leipsic             | Eur.  | Saxony          | 51 19 14 N | 12 20 0 E   | 0 49 20 E  |       |
| Leper's Island      | Asia  | Pac. Ocean      | 15 23 30 S | 167 58 15 E | 10 11 53 E |       |
| Leskeard            | Eur.  | England         | 50 26 55 N | 4 41 45 W   | 0 18 47 W  |       |
| Lesparre            | Eur.  | France          | 45 18 33 N | 0 57 3 W    | 0 3 48 W   |       |
| Leyden              | Eur.  | Holland         | 52 8 40 N  | -4 28 0 E   | 0 17 52 E  |       |
| Liege               | Eur.  | Netherlands     | 50 37 30 N | 5 35 0 E    | 0 22 20 E  |       |
| Lima                | Am.   | Peru            | 12 1 15 S  | 76 49 30 W  | 5 7 18 W   |       |
| Limoges             | Eur.  | France          | 45 49 44 N | 1 15 50 E   | 0 5 4 E    |       |
| Lintz               | Eur.  | Germany         | 48 16 0 N  | 13 57 30 E  | 0 55 50 E  |       |
| Lisieux             | Eur.  | France          | 49 8 50 N  | 0 13 32 E   | 0 0 54 E   |       |
| Lisle               | Eur.  | Flanders        | 50 37 50 N | 3 4 16 E    | 0 12 17 E  |       |
| Lisbon              | Eur.  | Portugal        | 38 42 25 N | 9 4 40 W    | 0 36 40 W  | 2 15  |
| Lion's Bank         | Eur.  | Atl. Ocean      | 56 40 0 N  | 17 45 0 W   | 1 11 0 W   |       |
| Lisburne (Cape)     | Asia  | N. Hebrides     | 15 40 45 S | 166 57 0 E  | 11 7 48 E  |       |
| Liverpool           | Eur.  | England         | 53 22 0 N  | 3 10 0 W    | 0 12 40 W  |       |
| Lizard Flagstaff    | Eur.  | England         | 49 57 56 N | 5 11 18 W   | 0 20 45 W  | 7 30  |
| Lombes              | Eur.  | France          | 43 28 30 N | 0 55 9 E    | 0 3 41 E   |       |
| London (St. Paul's) | Eur.  | England         | 51 31 0 N  | 0 5 37 W    | 0 0 22 W   | 3 0   |
| Lorenzo (Cape)      | Am.   | Peru            | 1 2 0 S    | 80 17 0 W   | 5 21 8 W   |       |
| St. Louis (Port)    | Am.   | Hispaniola      | 18 13 50 N | 73 16 0 W   | 4 53 4 W   |       |
| St. Louis (Port)    | Am.   | Mauritius       | 20 9 45 S  | 57 28 0 E   | 3 49 52 E  |       |
| Louisbourg          | Am.   | Cape Breton     | 45 53 40 N | 59 55 0 W   | 3 59 40 W  |       |
| Louveau             | Asia  | India           | 12 42 30 N | 101 1 30 E  | 6 44 6 E   |       |
| Louvain             | Eur.  | Netherlands     | 50 53 3 N  | 4 44 15 E   | 0 18 57 E  |       |
| Lowestoffe          | Eur.  | England         | 52 29 0 N  | 1 44 9 E    | 0 3 57 E   |       |
| St. Lucia (Isle)    | Am.   | Antilles        | 13 24 30 N | 60 51 30 W  | 4 3 26 W   |       |
| Lunden              | Eur.  | Sweden          | 53 42 26 N | 13 12 27 E  | 0 52 50 E  |       |
| Luneville           | Eur.  | France          | 48 35 33 N | 6 30 6 E    | 0 26 0 E   |       |

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|                        |       |                 | °          | '  | "    | °           | '  | "    |            |
| Lufon                  | Eur.  | France          | 46         | 27 | 13 N | 1           | 10 | 34 W | 0 4 42 W   |
| Luxembourg             | Eur.  | Netherlands     | 49         | 37 | 6 N  | 6           | 11 | 45 E | 0 24 47 E  |
| Lyme Steeple           | Eur.  | England         | 51         | 4  | 20 N | 1           | 1  | 22 E | 0 4 5 E    |
| Lynn                   | Eur.  | England         | 52         | 45 | 16 N | 0           | 23 | 45 E | 0 1 35 E   |
| Lyons                  | Eur.  | France          | 45         | 55 | 52 N | 4           | 49 | 9 E  | 0 19 17 E  |
| M                      |       |                 |            |    |      |             |    |      |            |
| Macao                  | Asia  | China           | 22         | 12 | 44 N | 113         | 46 | 15 E | 7 35 5 E   |
| Macaffer               | Asia  | Celebes         | 5          | 9  | 0 S  | 119         | 48 | 45 E | 7 59 15 E  |
| Madeira (Funchal)      | Asia  | Atl. Ocean      | 32         | 37 | 40 N | 16          | 56 | 0 W  | 1 7 44 W   |
| Madras                 | Asia  | India           | 13         | 4  | 54 N | 80          | 28 | 45 E | 5 21 55 E  |
| Madre de Dios (Port)   | Asia  | Maquesas        | 9          | 55 | 30 S | 139         | 8  | 40 W | 9 16 35 W  |
| Madrid                 | Eur.  | Spain           | 40         | 25 | 18 N | 3           | 12 | 0 W  | 0 14 8 W   |
| Magdalena (Isle)       | Asia  | Pac. Ocean      | 10         | 25 | 30 S | 138         | 49 | 0 W  | 9 15 16 W  |
| Mahon (Port)           | Eur.  | Minorca         | 39         | 50 | 46 N | 3           | 48 | 30 E | 0 15 14 E  |
| Majorca (Isle)         | Eur.  | Medit. Sea      | 39         | 35 | 0 N  | 2           | 29 | 45 E | 0 9 59 E   |
| Malacca                | Asia  | India           | 2          | 12 | 0 N  | 102         | 5  | 0 E  | 6 48 20 E  |
| Malines                | Eur.  | Netherlands     | 51         | 1  | 30 N | 4           | 28 | 45 E | 0 17 55 E  |
| Malicola (Isle)        | Asia  | Pac. Ocean      | 16         | 15 | 30 S | 167         | 39 | 15 E | 11 10 37 E |
| St. Maloes             | Eur.  | France          | 48         | 38 | 59 N | 2           | 2  | 22 W | 0 8 9 W    |
| Malta (Isle)           | Asia  | Medit. Sea      | 35         | 53 | 47 N | 14          | 28 | 30 E | 0 57 54 E  |
| Manilla                | Asia  | Philippines     | 14         | 36 | 8 N  | 120         | 52 | 0 E  | 8 3 28 E   |
| St. Margaret's Steeple | Eur.  | England         | 51         | 9  | 14 N | 1           | 22 | 7 E  | 0 5 28 E   |
| Marigalante (Isle)     | Am.   | Atl. Ocean      | 15         | 55 | 15 N | 61          | 11 | 9 W  | 4 4 44 W   |
| Marfeilles             | Eur.  | France          | 43         | 17 | 43 N | 5           | 21 | 43 E | 0 21 27 E  |
| St. Mariba             | Am.   | Terra Firma     | 11         | 26 | 40 N | 74          | 4  | 30 W | 4 56 18 W  |
| St. Martin's (Isle)    | Am.   | Carib. Sea      | 18         | 4  | 20 N | 63          | 2  | 0 W  | 4 12 8 W   |
| Martinico (Port-royal) | Am.   | Atl. Ocean      | 14         | 35 | 55 N | 61          | 9  | 0 W  | 4 4 36 W   |
| St. Mary's (Isle)      | Eur.  | Scilly Isles    | 49         | 57 | 30 N | 6           | 43 | 0 W  | 0 26 52 W  |
| St. Mary's (Town)      | Eur.  | Azores          | 36         | 56 | 40 N | 25          | 9  | 15 W | 1 40 37 W  |
| Maikelyne's Isle       | Asia  | Pac. Ocean      | 16         | 32 | 0 S  | 167         | 59 | 15 E | 11 11 57 E |
| St. Matthew (Light)    | Eur.  | France          | 48         | 19 | 52 N | 4           | 47 | 25 W | 0 19 10 W  |
| Mauritius              | Asia  | Ind. Ocean      | 20         | 9  | 45 S | 57          | 29 | 15 E | 3 49 57 E  |
| Mantua (Isle)          | Asia  | Pac. Ocean      | 16         | 25 | 40 S | 152         | 32 | 40 W | 10 10 11 W |
| Mayence                | Eur.  | Germany         | 49         | 54 | 0 N  | 8           | 20 | 0 E  | 0 33 20 E  |
| Mayne (John's Isle)    | Eur.  | North Ocean     | 71         | 10 | 0 N  | 9           | 49 | 30 W | 0 39 18 W  |
| Mayo (Isle)            | Asia  | Cape Verd       | 15         | 10 | 0 N  | 23          | 5  | 0 W  | 1 32 20 W  |
| Meaux                  | Eur.  | France          | 48         | 57 | 40 N | 2           | 52 | 30 E | 0 11 30 E  |
| Mecca                  | Asia  | Arabia          | 21         | 40 | 0 N  | 41          | 0  | 0 E  | 2 44 0 E   |
| Mende                  | Eur.  | France          | 44         | 31 | 2 N  | 3           | 29 | 35 E | 0 13 58 E  |
| Mergui                 | Asia  | Siam            | 12         | 12 | 0 N  | 98          | 8  | 45 E | 6 32 35 E  |
| Mets                   | Eur.  | France          | 49         | 7  | 10 N | 6           | 10 | 13 E | 0 24 41 E  |
| Mew Stone              | Asia  | New Holland     | 43         | 48 | 0 S  | 146         | 27 | 0 E  | 9 45 48 E  |
| Mexico                 | Am.   | Mexico          | 19         | 25 | 50 S | 100         | 5  | 45 W | 6 40 23 W  |
| Mézieres               | Eur.  | France          | 49         | 45 | 47 N | 4           | 43 | 16 E | 0 18 53 E  |
| Miatea (Isle)          | Asia  | Pac. Ocean      | 17         | 52 | 0 S  | 148         | 6  | 0 W  | 9 52 24 W  |
| St. Michael's (Isle)   | Eur.  | Azores          | 37         | 47 | 0 N  | 25          | 42 | 0 W  | 1 42 48 W  |
| Middleburg (Isle)      | Asia  | Pac. Ocean      | 21         | 20 | 30 S | 174         | 34 | 0 W  | 11 38 16 W |
| Milan                  | Eur.  | Italy           | 45         | 27 | 57 N | 9           | 11 | 45 E | 0 36 47 E  |
| Milo (Isle)            | Eur.  | Medit. Sea      | 36         | 41 | 0 N  | 25          | 0  | 0 E  | 1 40 0 E   |
| Minorca (St. Phil.)    | Eur.  | Medit. Sea      | 39         | 51 | 0 N  | 3           | 54 | 0 E  | 0 15 36 E  |

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| Names of Places.   | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H.W.  |
|--------------------|-------|-----------------|------------|-------------|------------|-------|
|                    |       |                 |            | In Degrees. | In Time.   |       |
|                    |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Modena             | Eur.  | Italy           | 44 34 0 N  | 11 12 30 E  | 0 44 50 E  |       |
| Mons               | Eur.  | Netherlands     | 50 27 10 N | 3 57 15 E   | 0 15 49 E  |       |
| Montagu (Cape)     | Am.   | Sandw. Land     | 58 33 0 S  | 26 46 0 W   | 1 47 4 W   |       |
| Montagu (Isle)     | Asia  | Pac. Ocean      | 17 26 0 S  | 168 31 30 E | 11 14 6 E  |       |
| Montmirail         | Eur.  | France          | 48 52 8 N  | 3 32 16 E   | 0 14 9 E   |       |
| Montpellier        | Eur.  | France          | 43 36 29 N | 3 52 25 E   | 0 15 30 E  |       |
| Montreal           | Am.   | Canada          | 45 50 0 N  | 73 11 0 W   | 4 52 44 W  |       |
| Montserrat (Isle)  | Am.   | Carib. Sea      | 16 47 30 N | 62 17 0 W   | 4 9 8 W    |       |
| Monument (The)     | Asia  | Pac. Ocean      | 17 14 15 S | 168 38 15 E | 11 14 33 E |       |
| Moscow             | Eur.  | Moscow          | 55 45 45 N | 37 32 45 E  | 2 30 11 E  |       |
| Moulins            | Eur.  | France          | 46 34 4 N  | 3 19 59 E   | 0 13 20 E  |       |
| Munich             | Eur.  | Bavaria         | 48 9 55 N  | 11 30 0 E   | 0 46 0 E   |       |
| Musketto Cove      | Am.   | Greenland       | 64 55 13 N | 52 56 45 W  | 3 31 47 W  | 10 15 |
| Muswell Hill       | Eur.  | England         | 51 35 32 N | 0 7 20 W    | 0 0 29 W   |       |
| N                  |       |                 |            |             |            |       |
| Namur              | Eur.  | Netherlands     | 50 28 32 N | 4 44 45 E   | 0 18 59 E  |       |
| Nancy              | Eur.  | France          | 48 41 55 N | 6 10 16 E   | 0 24 41 E  |       |
| Nangasacki         | Asia  | Japan           | 32 32 0 N  | 128 46 15 E | 8 35 5 E   |       |
| Nankin             | Asia  | China           | 32 4 40 S  | 118 47 0 E  | 7 55 8 E   |       |
| Nantes             | Eur.  | France          | 47 13 6 N  | 1 32 59 W   | 0 6 12 W   | 3 0   |
| Naples             | Eur.  | Italy           | 40 50 15 N | 14 17 30 E  | 0 57 10 E  |       |
| Narbonne           | Eur.  | France          | 43 10 58 N | 2 59 59 E   | 0 12 0 E   |       |
| Nevers             | Eur.  | France          | 46 59 17 N | 3 9 16 E    | 0 12 37 E  |       |
| New Year's Harbour | Am.   | Staten Land     | 54 48 55 S | 64 11 0 W   | 4 16 45 W  |       |
| Niagara            | Am.   | Canada          | 43 4 25 N  | 79 7 51 W   | 5 16 31 W  |       |
| Nice               | Eur.  | France          | 43 41 47 N | 7 16 22 E   | 0 29 5 E   |       |
| St. Nicholas Mole  | Am.   | Hispaniola      | 19 49 20 N | 73 29 45 W  | 4 53 59 W  |       |
| Nieuport Mole      | Eur.  | Flanders        | 51 7 41 N  | 2 45 0 E    | 0 11 0 E   | 12 0  |
| Ningpa             | Asia  | China           | 29 57 45 N | 120 18 0 E  | 8 1 12 E   |       |
| Nîmes              | Eur.  | France          | 43 50 12 N | 4 18 39 E   | 0 17 15 E  |       |
| Noir (Cape)        | Am.   | T. del Fuego    | 54 32 30 S | 73 3 15 W   | 4 48 13 W  |       |
| Nootka             | Am.   | Pac. Ocean      | 49 36 6 N  | 126 4 30 W  | 8 26 50 W  |       |
| Norfolk Island     | Asia  | Pac. Ocean      | 29 1 45 N  | 168 20 0 E  | 11 12 40 E |       |
| Noriton            | Am.   | Pennsylvania    | 40 9 56 N  | 75 23 30 W  | 5 1 34 W   |       |
| North Cape         | Eur.  | Lapland         | 71 10 0 N  | 25 57 0 E   | 1 43 48 E  | 3 0   |
| Cape North         | Am.   | S. Georgia      | 54 4 45 N  | 38 15 0 W   | 2 33 0 W   |       |
| Noyon              | Eur.  | France          | 49 34 59 N | 3 59 48 E   | 0 11 59 E  |       |
| Nuremberg          | Eur.  | Germany         | 49 26 55 N | 11 4 0 E    | 0 44 16 E  |       |
| O                  |       |                 |            |             |            |       |
| Oaitipha Bay       | Asia  | Otaheite        | 17 29 17 S | 149 35 45 W | 9 56 57 W  |       |
| Ochoz              | Asia  | Tatary          | 59 20 10 N | 143 12 30 E | 9 32 50 E  |       |
| Ohamandeno Harbour | Asia  | Uliateah        | 16 45 30 S | 151 38 5 W  | 10 6 32 W  | 11 20 |
| Ohavahoo (Isle)    | Asia  | Pac. Ocean      | 9 40 40 S  | 139 1 40 W  | 9 16 7 W   |       |
| Ohitaloo (Isle)    | Asia  | Pac. Ocean      | 9 55 30 S  | 139 6 0 W   | 9 16 24 W  | 3 30  |
| Oleron (Isle)      | Eur.  | France          | 46 2 50 N  | 1 25 13 W   | 0 5 41 W   |       |
| Olinde             | Am.   | Brazil          | 8 13 0     | 35 5 30 W   | 2 20 22 W  |       |
| St. Omer's         | Eur.  | Flanders        | 50 43 46 N | 1 14 57 E   | 0 9 0 W    |       |
| Ohateavio (Isle)   | Asia  | Pac. Ocean      | 9 58 0 S   | 138 51 0 W  | 9 15 29 W  |       |



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## The Latitudes and Longitudes of Places.

| Names of Places.      | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H.W.  |
|-----------------------|-------|-----------------|------------|-------------|------------|-------|
|                       |       |                 |            | In Degrees. | In Time.   |       |
|                       |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Oporto                | Eur.  | Portugal        | 41 10 0 N  | 8 22 0 W    | 0 33 8 W   |       |
| Orenburg              | Asia  | Tatary          | 51 46 5 N  | 55 4 30 E   | 3 40 18 E  |       |
| Orleans               | Eur.  | France          | 47 54 10 N | 1 5 27 E    | 0 7 38 E   |       |
| Orleans (New)         | Am.   | Louisiana       | 29 57 45 N | 89 58 45 W  | 5 59 55 W  |       |
| Oratava               | As.   | Teneriffe       | 28 23 27 N | 16 24 11 W  | 1 5 37 W   |       |
| Ork                   | Asia  | Tatary          | 51 12 30 N | 58 30 45 E  | 3 54 3 E   |       |
| Ortagal (Cape)        | Eur.  | Spain           | 43 46 30 N | 7 39 0 W    | 0 30 36 W  |       |
| Otinaburg (Isle)      | Asia  | Pac. Ocean      | 17 49 30 S | 149 26 55 W | 9 52 24 W  |       |
| Ostend                | Eur.  | Neitherlands    | 51 13 55 N | 2 55 45 E   | 0 11 43 E  | 12 0  |
| Owharre Bay           | Asia  | Huahind         | 16 44 0 S  | 151 8 15 W  | 10 4 33 W  |       |
| Oxford (Observatory)  | Eur.  | England         | 51 45 38 N | 1 15 30 W   | 0 5 2 W    |       |
| P                     |       |                 |            |             |            |       |
| Padua                 | Eur.  | Italy           | 45 13 40 N | 11 52 30 E  | 0 47 30 E  |       |
| Paita                 | Am.   | Peru            | 5 12 0 S   |             |            |       |
| Palliser's (Isles)    | Asia  | Pac. Ocean      | 15 38 15 S | 146 30 15 W | 9 46 1 W   |       |
| Palliser's (Cape)     | Asia  | N. Zealand      | 41 38 0 S  | 175 18 0 E  | 11 44 30 E |       |
| Palma (Isle)          | As.   | Canaries        | 28 36 45 N | 17 50 0 W   | 1 11 20 W  |       |
| Palmerston's (Isle)   | Asia  | Pac. Ocean      | 18 0 0 S   | 162 57 0 W  | 10 51 48 W |       |
| Panama                | Am.   | Mexico          | 8 47 48 N  | 80 21 0 W   | 5 21 24 W  |       |
| Paoom (Isle)          | Asia  | Pac Ocean       | 16 30 0 S  | 168 28 45 E | 11 13 45 E |       |
| Paris (Observ.)       | Eur.  | France          | 48 50 14 N | 2 20 0 E    | 0 9 20 E   |       |
| Patrikshord           | Eur.  | Iceland         | 65 35 45 N | 24 10 0 W   | 1 36 40 W  |       |
| Pau                   | Eur.  | France          | 43 15 0 N  | 0 9 0 W     | 0 0 36 W   |       |
| St. Pauls (Isle)      | As.   | Ind. Ocean      | 37 51 0 S  | 77 48 0 E   | 5 11 12 E  |       |
| St. Paul de Léon      | Eur.  | France          | 48 40 55 N | 4 0 21 W    | 0 16 1 W   | 4 0   |
| Pekin                 | Asia  | China           | 39 54 13 N | 116 27 30 E | 7 45 50 E  |       |
| Perigueux             | Eur.  | France          | 45 11 8 N  | 0 43 9 E    | 0 2 53 E   |       |
| Perimaldi             | Eur.  | Italy           | 43 53 20 N | 7 40 0 E    | 0 30 40 E  |       |
| Perpignan             | Eur.  | France          | 42 41 53 N | 2 53 25 E   | 0 11 34 E  |       |
| St. Peter's Fort      | Am.   | Martinico       | 14 44 0 N  | 61 21 16 W  | 4 5 25 W   |       |
| St. Peter's (Isle)    | Am.   | Atl. Ocean      | 46 46 30 N | 56 17 0 W   | 3 45 8 W   |       |
| Petersburgh           | Eur.  | Russia          | 59 56 23 N | 30 19 0 E   | 2 1 16 E   |       |
| Petit Guave           | Am.   | Hispaniola      | 18 27 0 N  | 72 52 30 W  | 4 51 30 W  |       |
| Petropawlofskoi       | Asia  | Kamchatka       | 53 1 20 N  | 158 43 0 E  | 10 35 13 E |       |
| Philadelphia          | Am.   | Pentylvania     | 39 56 55 N | 75 13 30 W  | 5 0 54 W   |       |
| St. Philip's Fort     | Eur.  | Minorca         | 39 50 46 N | 3 48 30 E   | 0 15 14 E  |       |
| Pickertgill's (Isle)  | Am.   | Atl. Ocean      | 54 42 30 S | 36 58 0 W   | 2 27 52 W  |       |
| Pickertgill's Harbour | Asia  | N. Zealand      | 45 47 27 S | 166 18 9 E  | 11 5 13 E  |       |
| Pico                  | Eur.  | Azores          | 38 28 40 N | 28 26 0 W   | 1 53 44 W  |       |
| Pines (Isle)          | Asia  | N. Caledonia    | 24 38 0 S  | 167 38 0 E  | 11 10 32 E |       |
| Pisa                  | Eur.  | Italy           | 43 43 7 N  | 10 23 0 E   | 0 41 32 E  |       |
| Plymouth Garrison     | Eur.  | England         | 50 21 22 N | 4 7 24 W    | 0 16 30 W  | 6 0   |
| Poitiers              | Eur.  | France          | 46 34 50 N | 0 20 48 E   | 0 1 23 E   |       |
| Pollingen             | Eur.  | Germany         | 47 48 17 N | 11 7 17 E   | 0 44 29 E  |       |
| Poole Church          | Eur.  | England         | 50 42 10 N | 1 58 55 W   | 0 7 56 W   |       |
| Pondicherry           | Asia  | India           | 11 41 55 N | 79 52 45 E  | 5 39 31 E  |       |
| Pontoi                | Eur.  | Lapland         | 67 4 30 N  | 36 23 15 E  | 2 25 33 E  |       |
| Pontoise              | Eur.  | France          | 49 3 2 N   | 2 5 37 E    | 0 8 22 E   |       |
| Portland Light-house  | Eur.  | England         | 50 31 22 N | 2 26 49 W   | 0 9 47 W   |       |
| Porto Bello           | Am.   | Mexico          | 9 33 5 N   | 79 50 20 W  | 5 19 21 W  |       |

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*The Latitudes and Longitudes of Places.*

| Names of Places.       | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H. W. |
|------------------------|-------|-----------------|------------|-------------|------------|-------|
|                        |       |                 |            | In Degrees. | In Time.   |       |
|                        |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Porto Sancto (Isle)    | Af.   | Madeira         | 32 58 15 N | 16 25 15 W  | 1 5 41 W   |       |
| Port Royal             | Am.   | Jamaica         | 18 0 0 N   | 76 45 30 W  | 5 7 2 W    |       |
| Port Royal             | Am.   | Martinico       | 14 35 55 N | 61 9 0 W    | 4 4 36 W   |       |
| Portsmouth Church      | Eur.  | England         | 50 47 27 N | 1 5 57 W    | 0 4 24 W   | 11 15 |
| Portsmouth Academy     | Eur.  | England         | 50 43 2 N  | 1 6 1 W     | 0 4 24 W   |       |
| Portland (Isle)        | Eur.  | North Sea       | 63 22 0 N  | 18 54 0 W   | 1 15 36 W  |       |
| Portland (Isle)        | Afia  | Pac. Ocean      | 39 25 0 S  | 178 12 0 W  | 12 52 48 E |       |
| Port Paix              | Am.   | Hispaniola      | 19 58 0 N  | 73 2 0 W    | 4 48 8 W   |       |
| Port Praya             | Af.   | St. Jago        | 14 53 53 N | 23 29 22 W  | 1 53 57 W  | 11 0  |
| Prague                 | Eur.  | Bohemia         | 50 5 47 N  | 14 24 0 E   | 0 57 36 E  |       |
| Prince of Wales's Fort | Am.   | New Wales       | 58 47 32 N | 94 7 30 W   | 6 16 30 W  |       |
| Providence             | Am.   | N. England      | 41 50 40 N | 71 26 0 W   | 4 45 44 W  |       |
| Pudyoua                | Afia  | N. Caledonia    | 20 18 0 S  | 164 41 14 E | 10 58 45 E | 6 30  |
| Pulo Condor (Isle)     | Afia  | Ind. Ocean      | 8 40 0 N   | 107 20 0 E  | 7 9 20 E   |       |
| Pulo Timor (Isle)      | Afia  | Gulph Siam      | 3 0 0 N    | 104 25 0 E  | 6 45 40 E  |       |
| Pylestnart's (Isle)    | Afia  | Pac. Ocean      | 22 23 0 S  | 175 41 30 W | 11 42 46 W |       |
| Q                      |       |                 |            |             |            |       |
| Quebec                 | Am.   | Canada          | 46 47 30 N | 71 10 0 W   | 4 44 40 W  | 7 30  |
| Quimper                | Eur.  | France          | 47 58 29 N | 4 6 0 W     | 0 16 24 W  |       |
| St. Quinton            | Eur.  | France          | 49 50 51 N | 3 17 23 E   | 0 13 10 E  |       |
| Quiros (Cape)          | Afia  | N. Hebrides     | 14 56 8 S  | 167 20 0 E  | 11 9 20 E  |       |
| Quito                  | Am.   | Peru            | 0 13 17 S  | 77 55 0 W   | 5 11 40 W  |       |
| R                      |       |                 |            |             |            |       |
| Rakah (Ancient)        | Afia  | Mesopotam.      | 36 1 0 N   | 38 50 0 E   | 2 35 20 E  |       |
| Ramhead                | Eur.  | England         | 50 18 40 N | 4 20 15 W   | 0 17 21 W  |       |
| Ramsgate Windmill      | Eur.  | England         | 51 19 49 N | 1 24 4 E    | 0 5 36 E   |       |
| Rhé (Isle)             | Eur.  | France          | 46 14 48 N | 1 34 28 W   | 0 6 18 W   | 3 0   |
| Recif                  | Am.   | Brazil          | 8 10 0 S   | 35 35 0 W   | 2 22 20 W  |       |
| Reikianefs (Cape)      | Eur.  | Iceland         | 63 55 0 N  | 22 47 30 W  | 1 31 10 W  |       |
| Rennes                 | Eur.  | France          | 48 6 45 N  | 1 41 53 W   | 0 6 48 W   |       |
| Resolution (Bay)       | Afia  | Ohiafoo         | 9 55 30 S  | 139 8 40 W  | 9 16 35 W  | 2 30  |
| Resolution (Isle)      | Afia  | Pac. Ocean      | 17 23 30 S | 141 45 0 W  | 9 27 0 W   |       |
| Resolution (Port)      | Afia  | Tanna           | 19 32 25 S | 169 41 5 E  | 11 18 44 E |       |
| Rheims                 | Eur.  | France          | 49 15 16 N | 4 1 48 E    | 0 16 7 E   |       |
| Rhodes                 | Eur.  | France          | 44 20 59 N | 2 34 17 E   | 0 10 17 E  |       |
| Rhodes                 | Afia  | Archipelago     | 35 27 0 N  | 28 45 0 E   | 1 55 0 E   |       |
| Rimini                 | Eur.  | Italy           | 44 3 43 N  | 12 34 15 E  | 0 50 17 E  |       |
| Rio Janeiro            | Am.   | Brazil          | 22 54 10 S | 42 43 45 W  | 2 50 55 W  |       |
| Rochelle               | Eur.  | France          | 46 9 21 N  | 1 9 55 W    | 0 4 40 W   | 3 45  |
| Rochfort               | Eur.  | France          | 45 50 10 N | 0 57 49 W   | 0 3 51 W   | 4 15  |
| Rock of Lisbon         | Eur.  | Portugal        | 38 45 30 N | 9 35 30 W   | 0 38 22 W  |       |
| Rodrigues (Isle)       | Af.   | Ind. Ocean      | 19 40 40 S | 63 10 0 E   | 4 12 40 E  |       |
| Rome (St. Peter's)     | Eur.  | Italy           | 41 53 54 N | 12 29 15 E  | 0 49 57 E  |       |
| Rotterdam              | Eur.  | Holland         | 51 55 58 N | 4 29 0 E    | 0 17 56 E  | 3 0   |
| Rotterdam (Isle)       | Afia  | Pac. Ocean      | 20 16 30 S | 174 30 30 W | 11 38 2 W  |       |
| Rouen                  | Eur.  | France          | 49 26 27 N | 1 1 34 W    | 0 4 6 W    | 1 1   |

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| S                     |       |                 |            |             |            |       |           |
|-----------------------|-------|-----------------|------------|-------------|------------|-------|-----------|
| Names of Places.      | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H. W. | H. W.     |
|                       |       |                 |            | In Degrees. | In Time.   |       |           |
|                       |       |                 | o   '   "  | o   '   "   | h   '   "  |       | h   '   " |
| Saba (Isle)           | Am.   | Carib. Sea      | 17 39 30 N | 63 17 15 W  | 4 13 9 W   |       |           |
| Sable (Cape)          | Am.   | Nova Scotia     | 73 23 45 N | 65 39 15 W  | 4 22 37 W  |       |           |
| Sagan                 | Eur.  | Silefia         | 51 42 12 N | 15 22 15 E  | 1 1 29 E   |       |           |
| Saintes               | Eur.  | France          | 45 44 43 N | 0 38 5 W    | 0 2 36 W   |       |           |
| Sainte-Croix          | Eur.  | France          | 48 0 35 N  | 7 23 55 E   | 0 29 36 E  |       |           |
| Salisbury Spire       | Eur.  | England         | 51 3 43 N  | 1 47 0 W    | 0 8 8 W    |       |           |
| Sall (Isle)           | Af.   | Atl. Ocean      | 16 38 15 N | 22 56 15 W  | 1 31 45 W  |       |           |
| Sanolique             | Eur.  | Turkey          | 40 41 10 N | 23 8 0 E    | 1 32 32 E  |       |           |
| Salvages (Isles)      | Af.   | Atl. Ocean      | 30 0 0 N   | 15 54 0 W   | 1 3 26 W   |       |           |
| Samana                | Am.   | Huipaniola      | 19 15 0 N  | 69 16 30 W  | 4 37 6 W   |       |           |
| Samos                 | Asia  | Archipelago     | 37 46 0 N  | 27 13 0 E   | 1 48 52 E  |       |           |
| Sancta Cruz           | Af.   | Teneriffe       | 28 27 30 N | 16 16 15 W  | 1 5 5 W    |       |           |
| Sandwich (Bay)        | Am.   | St. Georgia     | 54 52 0 S  | 36 12 0 W   | 2 24 48 W  |       |           |
| Sandwich (Cape)       | Asia  | Mallicola       | 16 28 0 S  | 167 59 0 E  | 11 11 56 E |       |           |
| Sandwich Harbour      | Asia  | Mallicola       | 16 25 20 S | 167 53 0 E  | 11 11 32 E |       |           |
| Sandwich (Isle)       | Asia  | Pac. Ocean      | 17 41 0 S  | 168 33 0 E  | 11 14 12 E |       |           |
| Saunders's (Cape)     | Am.   | Sandw. Land     | 54 6 30 S  | 36 57 30 W  | 2 27 50 W  |       |           |
| Saunders's (Isle)     | Am.   | S. Georgia      | 58 0 0 S   | 26 58 0 W   | 1 47 52 W  |       |           |
| Savage (Isle)         | Asia  | Pac. Ocean      | 19 2 15 S  | 169 30 30 W | 11 18 2 W  |       |           |
| Scarborough Head      | Eur.  | England         | 54 18 0 N  | 0 13 0 W    | 0 0 52 W   |       |           |
| Schweizingen          | Eur.  | Germany         | 49 23 4 N  | 8 40 45 E   | 0 34 23 E  |       |           |
| Scilly Isles (Lights) | Eur.  | Eng. Channel    | 49 56 0 N  | 6 46 0 W    | 0 27 4 W   |       |           |
| Sebastian St. (Cape)  | Af.   | Madagascar      | 12 30 0 S  | 46 25 0 E   | 3 5 40 E   |       |           |
| Sedan                 | Eur.  | France          | 49 42 29 N | 4 57 36 E   | 0 19 50 E  |       |           |
| Seez                  | Eur.  | France          | 48 56 23 N | 0 10 44 E   | 0 40 3 E   |       |           |
| Senegal               | Af.   | Negroland       | 15 53 0 N  | 16 31 30 W  | 1 6 6 W    |       | 10 30     |
| Senlis                | Eur.  | France          | 49 12 28 N | 2 34 58 E   | 0 10 20 E  |       |           |
| Sens                  | Eur.  | France          | 48 11 55 N | 3 17 21 E   | 0 13 6 E   |       |           |
| Senones               | Eur.  | France          | 48 23 7 N  | 6 57 0 E    | 0 27 48 E  |       |           |
| Sheerness             | Eur.  | England         | 51 25 0 N  | 0 50 0 E    | 0 3 20 E   |       |           |
| Shepherd's (Isles)    | Asia  | Pac. Ocean      | 16 58 0 S  | 168 42 0 E  | 11 14 48 E |       |           |
| Shirburn Cattle       | Eur.  | England         | 51 39 25 N | 1 0 0 W     | 0 4 0 W    |       |           |
| Siam                  | Asia  | India           | 14 20 40 N | 100 50 0 E  | 6 43 20 E  |       |           |
| Si-ingham-fu          | Asia  | China           | 34 16 30 N | 108 43 45 E | 7 14 55 E  |       |           |
| Sifteron              | Eur.  | France          | 44 11 51 N | 5 56 18 E   | 0 23 45 E  |       |           |
| Sligo Bay             | Eur.  | Ireland         | 54 15 0 N  | 9 18 0 W    | 0 37 12 W  |       |           |
| Smyrna                | Asia  | Natolia         | 38 28 7 N  | 27 6 35 E   | 1 48 26 E  |       |           |
| Snæfell (Mount)       | Eur.  | Iceland         | 64 52 20 N | 23 54 0 W   | 1 35 36 W  |       |           |
| Soissons              | Eur.  | France          | 49 22 52 N | 3 19 16 E   | 0 13 17 E  |       |           |
| Sombavera (Isles)     | Am.   | Carib. Sea      | 18 38 0 N  | 63 37 30 W  | 4 14 30 W  |       |           |
| Soolo                 | Asia  | India           | 5 57 0 N   | 121 15 30 E | 8 5 2 E    |       |           |
| Southampton Spire     | Eur.  | England         | 50 53 59 N | 1 23 56 W   | 0 5 36 W   |       |           |
| Southern Thule        | Am.   | Sandw. Land     | 59 34 0 S  | 27 45 0 W   | 1 51 0 W   |       |           |
| Speaker Bank          | Asia  | Ind. Ocean      | 4 45 0 S   | 72 57 0 E   | 4 51 48 E  |       |           |
| Stalbridge            | Eur.  | England         | 50 57 0 N  | 2 23 30 W   | 0 9 34 W   |       |           |
| Star-Point            | Eur.  | England         | 50 13 26 N | 3 38 21 W   | 0 14 33 W  |       |           |
| Stockholm             | Eur.  | Sweden          | 59 20 31 N | 18 3 45 E   | 1 12 16 E  |       |           |
| Stonehenge            | Eur.  | England         | 51 10 44 N | 1 49 8 W    | 0 7 16 W   |       |           |
| Straumnefs            | Eur.  | Iceland         | 65 39 40 N | 24 29 15 W  | 1 37 57 W  |       |           |
| Stratsborough         | Eur.  | France          | 48 34 56 N | 7 44 36 E   | 0 50 58 E  |       |           |

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*The Latitudes and Longitudes of Places.*

| Names of Places.      | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H. W. |
|-----------------------|-------|-----------------|------------|-------------|------------|-------|
|                       |       |                 |            | In Degrees. | In Time.   |       |
|                       |       |                 | ° ' "      | ° ' "       | h ' "      | h ' " |
| Success Bay           | Am.   | T. del Fuego    | 54 49 45 S | 65 25 0 W   | 4 21 40 W  |       |
| Success Cape          | Am.   | T. del Fuego    | 55 1 0 S   | 65 27 0 W   | 4 21 48 W  |       |
| Suez                  | Af.   | Egypt           | 29 50 0 N  | 33 27 0 E   | 2 13 48 E  |       |
| Sults                 | Eur.  | France          | 47 53 10 N | 7 14 32 W   | 0 28 58 W  |       |
| Surat                 | Asia  | India           | 21 10 0 N  | 72 22 30 E  | 4 49 30 E  |       |
| T                     |       |                 |            |             |            |       |
| Table Island          | Asia  | N. Hebrides     | 15 38 0 S  | 167 7 0 E   | 11 8 28 E  | 3 0   |
| Tanna                 | Asia  | Pac. Ocean      | 19 32 25 S | 169 41 5 E  | 11 18 44 E |       |
| Taoukaa (Isle)        | Asia  | Pac. Ocean      | 14 30 30 S | 145 9 30 W  | 9 40 38 W  |       |
| Tarascón              | Eur.  | France          | 43 48 20 N | 4 39 36 E   | 0 18 38 E  |       |
| Tarbes                | Eur.  | France          | 43 13 52 N | 0 3 59 E    | 0 0 16 E   |       |
| Taffacorta            | Af.   | Isle Palma      | 28 38 0 N  | 17 58 0 W   | 1 11 52 W  |       |
| Temontengis           | Af.   | Soloo           | 5 57 0 N   | 120 53 30 E | 8 3 34 E   |       |
| Teneriffe (Peak)      | Af.   | Canaries        | 28 17 0 N  | 16 40 0 W   | 1 6 40 W   |       |
| Tercera               | Eur.  | Azores          | 38 45 0 N  | 27 6 0 W    | 1 48 24 W  |       |
| Texel Isle            | Eur.  | Holland         | 53 10 0 N  | 4 59 0 E    | 0 19 56 E  |       |
| Thionville            | Eur.  | France          | 49 21 30 N | 6 10 30 E   | 0 24 42 E  |       |
| Thomas St. (Isle)     | Am.   | Virgin Isles    | 18 21 55 N | 64 51 30 W  | 4 19 26 W  |       |
| Thule (Southern)      | Am.   | Sandw. Land     | 59 34 0 S  | 27 45 0 W   | 1 51 0 W   |       |
| Thury                 | Eur.  | France          | 49 21 28 N | 2 18 30 E   | 0 9 14 E   |       |
| Timor (S. W. Point)   | Asia  | India           | 10 23 0 S  | 123 59 0 E  | 8 15 56 E  |       |
| Timor Land (S. Point) | Asia  | India           | 8 15 0 S   | 131 54 0 E  | 8 47 36 E  |       |
| Tobolsk               | Asia  | Siberia         | 58 12 30 N | 68 25 0 E   | 4 33 40 E  |       |
| Tolaga Bay            | Asia  | N. Zealand      | 38 21 30 S | 178 33 45 E | 11 58 15 E |       |
| Toledo                | Eur.  | Spain           | 39 50 0 N  | 3 20 0 W    | 0 13 20 W  |       |
| Tomsk                 | Asia  | Siberia         | 56 30 0 N  | 84 59 30 E  | 5 39 58 E  |       |
| Tonga Tabu (Isle)     | Asia  | Pac. Ocean      | 21 9 0 S   | 174 46 0 W  | 11 39 4 W  |       |
| Tonnerre              | Eur.  | France          | 47 51 8 N  | 3 58 44 E   | 0 15 59 E  |       |
| Torbay                | Eur.  | England         | 50 34 0 N  | 3 36 0 W    | 0 14 24 W  |       |
| Tornea                | Eur.  | Sweden          | 65 50 50 N | 24 12 0 E   | 1 36 48 E  |       |
| Toulon                | Eur.  | France          | 43 7 16 N  | 5 55 26 E   | 0 23 42 E  |       |
| Touloufe              | Eur.  | France          | 43 35 46 N | 1 26 21 E   | 0 5 45 E   |       |
| Tournan               | Eur.  | France          | 48 43 57 N | 2 45 15 E   | 0 11 1 E   |       |
| Tours                 | Eur.  | France          | 47 23 46 N | 0 41 32 E   | 0 2 46 E   |       |
| Traitor's Head        | Asia  | Erramanga       | 18 43 30 S | 169 20 30 E | 11 17 22 E |       |
| Trieste               | Eur.  | Adriatic Sea    | 45 51 0 N  | 14 3 0 E    | 0 56 12 E  |       |
| Trinidad              | Am.   | Atl. Ocean      | 20 15 0 S  | 126 42 0 W  | 8 26 48 W  |       |
| Tripoli               | Af.   | Barbary         | 32 53 40 N | 13 5 15 E   | 0 52 21 E  |       |
| royes                 | Eur.  | France          | 48 18 5 N  | 4 4 34 E    | 0 16 18 E  |       |
| Turin                 | Eur.  | Italy           | 45 4 14 N  | 7 40 0 E    | 0 30 40 E  |       |
| Turnagain (Cape)      | Asia  | N. Zealand      | 40 28 0 S  | 176 56 0 E  | 11 47 44 E |       |
| Turtle Island         | Asia  | Pac. Ocean      | 19 48 45 S | 177 57 0 W  | 11 51 48 W |       |
| Tyrnaw                | Eur.  | Hungary         | 48 23 30 N | 17 33 45 E  | 1 10 15 E  |       |
| U                     |       |                 |            |             |            |       |
| Uliateah              | Asia  | Pac. Ocean      | 16 45 0 S  | 151 37 0 W  | 10 6 4 W   |       |
| Unfal                 | Eur.  | Sweden          | 59 51 50 N | 17 38 45 E  | 1 10 35 E  |       |
| Uraniberg             | Eur.  | Denmark         | 55 54 38 N | 12 42 44 E  | 0 50 51 E  |       |
| Uthant                | Eur.  | France          | 48 28 30 N | 5 4 33 W    | 0 20 18 W  | 4     |

# INTRODUCTION.

xcix

## The Latitudes and Longitudes of Places.

| V                      |       |                 |            |             |            |       |       |
|------------------------|-------|-----------------|------------|-------------|------------|-------|-------|
| Names of Places.       | Cont. | Sea or Country. | Latitude.  | Longitude.  |            | H. W. |       |
|                        |       |                 |            | In Degrees. | In Time.   |       |       |
|                        |       |                 | ° ' "      | ° ' "       | h ' "      |       |       |
| Valenciennes           | Eur.  | France          | 50 21 27 N | 3 31 40 E   | 0 14 18 E  |       |       |
| Valery, St.            | Eur.  | France          | 50 11 13 N | 1 37 6 E    | 0 6 28 E   |       |       |
| Vallery, St.           | Eur.  | France          | 49 52 12 N | 0 41 10 E   | 0 2 45 E   |       |       |
| Valparaiso             | Am.   | Chili           | 33 2 36 S  | 72 19 15 W  | 4 49 17 W  |       |       |
| Van Dieman's Road.     | Asia  | Tonga Tabu      | 21 4 15 S  | 174 56 24 W | 11 39 46 W |       |       |
| Vannes                 | Eur.  | France          | 47 39 14 N | 2 46 26 W   | 0 11 17 W  |       |       |
| Vence                  | Eur.  | France          | 43 43 16 N | 7 7 28 E    | 0 28 30 E  |       |       |
| Venice                 | Eur.  | Italy           | 45 26 7 N  | 12 22 45 E  | 0 49 31 E  |       |       |
| Venus (Point)          | Asia  | Otaheite        | 17 29 17 S | 149 35 45 W | 9 58 23 W  |       | 10 30 |
| Vera Cruz              | Am.   | Mexico          | 19 9 38 N  | 96 0 0 W    | 6 24 0 W   |       |       |
| Verd (Cape)            | Af.   | Negroland       | 14 43 45 N | 17 30 45 W  | 1 10 3 W   |       |       |
| Verdun                 | Eur.  | France          | 49 9 24 N  | 5 22 41 E   | 0 21 31 E  |       |       |
| Verona                 | Eur.  | Italy           | 45 26 7 N  | 11 18 30 E  | 0 45 14 E  |       |       |
| Verfailles             | Eur.  | France          | 48 48 21 N | 2 7 7 E     | 0 8 28 E   |       |       |
| Vienna (Observ.)       | Eur.  | Hungary         | 48 12 36 N | 16 16 22 E  | 1 5 30 E   |       |       |
| Vigo                   | Eur.  | Spain           | 42 14 24 N | 8 28 0 W    | 0 33 52 W  |       |       |
| Vincent, St. (Cape)    | Eur.  | Spain           | 37 3 0 N   | 8 59 26 W   | 0 35 58 W  |       |       |
| Vintimiglia            | Eur.  | Italy           | 43 53 20 N | 7 37 30 E   | 0 30 30 E  |       |       |
| Virgin Gorda (Fort)    | Am.   | West Indies     | 18 18 0 N  | 64 0 0 W    | 4 16 0 W   |       |       |
| Virgin (Cape)          | Am.   | Patagonia       | 52 23 0 S  | 67 54 0 W   | 4 31 36 W  |       |       |
| Viviers                | Eur.  | France          | 44 28 57 N | 4 40 55 E   | 0 18 44 E  |       |       |
| W                      |       |                 |            |             |            |       |       |
| Wakefield              | Eur.  | England         | 53 41 0 N  | 1 33 30 W   | 0 6 14 W   |       |       |
| Prince of Wales's Fort | Am.   | New Wales       | 58 47 30 N | 94 7 30 W   | 6 16 30 W  |       |       |
| Wanstead               | Eur.  | England         | 51 34 10 N | 0 2 30 E    | 0 0 10 E   |       |       |
| Wardhus                | Eur.  | Lapland         | 70 22 36 N | 31 6 45 E   | 2 4 27 E   |       |       |
| Warsaw                 | Eur.  | Poland          | 52 14 28 N | 21 0 0 E    | 1 24 2 E   |       |       |
| Westman (Isles)        | Eur.  | N. Ocean        | 63 20 30 N | 20 27 45 W  | 1 21 51 W  |       |       |
| Wexford                | Eur.  | Ireland         | 52 22 0 N  | 6 30 0 W    | 0 26 0 W   |       |       |
| Weymouth               | Eur.  | England         | 52 40 0 N  | 2 34 0 W    | 0 9 36 W   |       |       |
| Whitehaven             | Eur.  | England         | 54 25 0 N  | 3 15 0 W    | 0 13 0 W   |       |       |
| Whitfuntide (Isle)     | Asia  | Pac. Ocean      | 15 44 20 S | 168 20 15 E | 11 13 21 E |       |       |
| William (Fort)         | Asia  | Bengal          | 22 34 45 N | 88 29 30 E  | 5 53 58 E  |       |       |
| Willis's (Isles)       | Am.   | S. Georgia      | 54 0 0 S   | 38 29 40 W  | 2 33 59 W  |       |       |
| Wilna                  | Eur.  | Poland          | 54 41 0 N  | 25 27 30 E  | 1 41 50 E  |       |       |
| Wittenburgh            | Eur.  | Germany         | 51 53 0 N  | 12 44 30 E  | 0 50 58 E  |       |       |
| Wologda                | Eur.  | Russia          | 59 19 0 N  |             |            |       |       |
| Worcester              | Eur.  | England         | 52 9 30 N  | 2 0 15 W    | 0 8 1 W    |       |       |
| Woslak                 | Eur.  | Russia          | 61 13 0 N  |             |            |       |       |
| Wyke Church            | Eur.  | England         | 50 35 57 N | 2 18 10 W   | 0 9 53 W   |       |       |
| Wurtzburgh             | Eur.  | Franconia       | 49 46 6 N  | 10 13 45 E  | 0 40 55 E  |       |       |
| Y                      |       |                 |            |             |            |       |       |
| Ylo                    | Am.   | Peru            | 17 36 15 S | 71 13 0 W   | 4 44 52 W  |       |       |
| York                   | Eur.  | England         | 53 59 0 N  | 1 6 40 W    | 0 4 27 W   |       |       |
| York (New)             | Am.   | Jersey          | 40 40 0 N  | 74 11 0 W   | 4 56 44 W  |       | 3 0   |
| Yorkminster            | Am.   | T. del Fuego    | 55 26 29 S | 0 8 0 W     | 4 40 32 W  |       |       |

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# MODERN GEOGRAPHY.

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## PRELIMINARY OBSERVATIONS.

DEFINITIONS.] THE word *geography* is derived from the Greek language, and implies a description of the earth. It is sometimes contrasted with *hydrography*, which signifies a description of the water, that is, of seas, lakes, rivers, &c. thus including marine charts: but in general hydrography is rather regarded as a province of geography. Both were anciently considered along with astronomy as parts of *cosmography*, which aspired to delineate the universe.

Geography is more justly contrasted with *chorography*, which illustrates a country or province; and still more with *topography*, which describes a particular place or small district.

What is called General Geography embraces a wide view of the subject, regarding the earth astronomically as a planet, the grand divisions of land and water, the winds, tides, meteorology, &c. and may extend to what is called the mechanical part of geography, in directions for the construction of globes, maps, and charts.

Among the other divisions of this science may be named Sacred Geography, solely employed in the illustration of the Scriptures; Ecclesiastic Geography, which describes the government of the Church, as divided into patriarchates, archbishoprics, bishoprics, archdeaneries, &c. with their respective boundaries, often varying much from those of the secular provinces: and Physical Geography, or Geology, which investigates the interior of the earth, so far as real discoveries can be made; for what have been styled systems of the earth, which have consumed the labours of many ingenious men, have no connection with the solid science of geology, but ought rather to be styled cosmogonies, or ideal creations of planets.

But Geography, popularly considered, is occupied in the description of the various regions of this globe, chiefly as being divided among various nations, and improved by human art and industry. If a scientific term were indispensable for this popular acceptance, that of Historical Geography might be adopted; not only from its professed subservience to history, but because it is in fact a narrative so nearly approaching the historical, that Herodotus, and many other ancient historians, have diversified their works with large portions of geography, and the celebrated description of Germany by Tacitus contains most of the materials adopted in modern treatises of geography.

DIVISIONS OF GEOGRAPHY.] In this popular point of view historical geography admits of three divisions: 1. The Ancient or Classical, which describes the state of the earth so far as it was discovered at different periods, but not extending further than the year of Christ 500. 2. That of the Middle Ages, which reaches to the fifteenth century, when the discoveries of the Portuguese began to lay wider foundations of the

science. 3. Modern Geography, the sole subject of the present work, which, while it embraces the most recent discoveries, still remains capable of great accessions, particularly in Africa; not to mention more minute deficiencies.

The chief object of modern geography is to present the most recent and authentic information concerning the numerous nations and states which divide and diversify the earth; but on this subject it is impossible to attain accurate ideas without a brief introductory view of the progress of each nation and state. Though in some few instances natural barriers have divided, and continue to divide, nations, yet in general the boundaries are arbitrary; so that the natural geography of a country, though forming an essential feature, hitherto treated with too much neglect in geographical works, cannot be admitted to a predominance, but, on the contrary, as matter yields to mind, may rather be regarded as a sequel in historical geography, which is chiefly occupied in describing the diversities of nations, and the conditions of the various races of mankind. On this subject there is no doubt room for a variety of opinions; but, after long consideration, it has appeared most eligible to prefer the following order: 1. The historical or progressive geography of each country. 2. Its political state, including most of the topics which recent German writers, by a term of dubious purity, call *statistic*. 3. The civil geography, including objects not so immediately connected with the government, as an account of the chief cities, towns, &c. 4. The natural geography.

[QUARTERS OF THE WORLD.] The ancients considered the earth under the three grand divisions of Asia, Europe, and Africa; yet, as they all form one continent, the distinctions were arbitrary, as they often included Egypt under Asia, and they had not discovered the limits of Europe towards the north-east. Modern discoveries have to these added a fourth division, that of America, which, exceeding even Asia in size, might perhaps as well have been admitted under two grand and distinct denominations, limited by the Isthmus of Darien. It was supposed, till within these thirty years, that there existed a vast continent in the south of the globe, and many schemes were formed for colonizing the wide and opulent *Terra Australis*; but the second navigation of the immortal Cook dispelled this visionary land from geography, or demonstrated, that if any continent there existed, it must be lost in the uninhabitable ice of the South Pole. Yet the wide extent of New Holland rewarded the views of enterprise. Too large for an island, too small for a continent, New Holland, like the other works of nature, eludes the petty distinctions of man; and while geographers hesitate whether to ascribe it to Asia, or, with De Brosses, to denominate it a fifth specific division of the globe, it is not improbable that the popular division of four quarters of the world will continue to predominate over any scientific discussion. Of the grand divisions of the earth, Asia has ever been the most populous, and is supposed to contain about 500,000,000 of souls, if China, as recently averred, comprise 330,000,000. The population of Africa may be 30,000,000, of America 20,000,000, and 150,000,000 may be assigned to Europe\*.

[FACE OF THE GLOBE.] Recent discoveries have evinced that more than two-thirds of this globe are covered with water; and these waters, whether oceans, seas, lakes, or rivers, are contained in hollow spaces more or less large, which late French geographers have called *lacs*, or basins, by

\* Australasia and Polynesia, or New Holland, and the Isles in the Pacific, probably do not contain above half a million.

a term of little dignity. They may as well be called concavities; while, on the other hand, the chief convexities or protuberances of the globe, by the French styled *plateaux*, consist of elevated uplands, sometimes crowned by mountains, sometimes rather level, as in the extensive central protuberance of Asia. In either case, long chains of mountains commonly proceed from those chief convexities in various directions; and the principal rivers usually spring from the most elevated grounds. Though the low and fertile plains generally perceivable for a long space before rivers enter the sea are often deposited by their waters, as in the Delta of Egypt and other instances, yet the geologist would in vain attempt general rules; while as on a small scale deep glens are found without any rivulet, so on a large one, vast and extensive hollows will appear without the smallest trace of their having been pervaded by a river.

[OCEANS.] The grandest concavity of this globe is filled by the Pacific ocean, occupying nearly half of its surface, from the eastern shores of New Holland to the Western Coast of America; and diversified with several groups of islands, which seem as it were the summits of vast mountains emerging from the waves. This chief concavity, separately considered, receives but few rivers, the chief being the Amur from Tartary, and the Hoan Ho and Kian Ku from China, while the principal rivers of America run towards the east.

The next great concavity is that of the Atlantic ocean, between the ancient continent and the new. A third is the Indian ocean.

The seas between the arctic and antarctic circles and the poles have been styled the Arctic and Antarctic oceans; the latter having supplanted the Terra Australis, and being in fact only a continuation of the Pacific, Atlantic, and Indian oceans; while the Arctic sea is partly embraced by continents, and receives many important rivers.

Such are the most profound concavities of the globe, while others are filled by more minute seas, as the Mediterranean, the Baltic, and others of yet smaller extent till we descend to inland lakes of fresh water.

[RIVERS.] Oblong concavities, sometimes of great length, mark the courses of the rivers; which generally at first intersect the higher grounds; till the declivity become more gentle on their approach towards their inferior receptacles. But as general views are seldom precise, it must not be forgotten, as already in part observed, that even large rivers sometimes spring from lowland marshes, and wind through vast plains unaccompanied by any concavity except that of their immediate course; while, on the other hand, extensive vales and low hollow spaces frequently occur destitute of any stream. Rivers will also sometimes force a passage, where nature has erected mountains and rocks against it; and where the *bassin* of the French would appear to be in another direction, which the river might have gained with more ease: so estranged is nature from human theory. In like manner though the chief chains of mountains in Europe extend in a south-easterly and north-westerly direction, yet there are so many exceptions, and such numerous and important variations in other parts of the globe, that theory in vain attempts to generalize. As mountains may be found in every direction of the compass, so a river may rise from an inland lake or marsh, and force its way through rocky barriers of great elevation. In short, the theory of the French geographers, though just in general, must not be too widely accepted: and the book of nature must be regarded as the chief code of consultation.

[CONTINENTS.] From the vast expanse of oceanic waters arises in the ancient hemisphere that wide continent which contains Asia, Europe,

and Africa, and in the modern hemisphere the continent of America, now discovered to form as it were a separate island, divided by a strait of the sea from the ancient continent. In the latter many discoveries of the utmost importance to geography are of very modern date; and it is not above sixty years since we obtained an imperfect idea of the extent of Siberia and the Russian empire; nor above twenty years since ample, real, and accurate knowledge of these wide regions began to be diffused. So that in fact America may be said to have been discovered before Asia; and of Africa our knowledge continues imperfect, while the newest observations, instead of diminishing, rather increase our ideas of its extent.

But the grandest division of the ancient continent is Asia, the parent of nations and of civilization: on the north-east and south surrounded by the ocean; but on the west divided by an ideal line from Africa, and from Europe by boundaries not very strongly impressed by the hand of nature. The Russian and Turkish empires extending over large portions of both continents intimately connect Asia with Europe. But for the sake of clearness and precision, the chief merits of any work of science, geographers retain the strict division of the ancient continent into three great parts, sacrificing a more minute to a more important distinction; which if not strictly natural is ethical, as the manners of the Asiatic subjects of Russia, and even of Turkey, differ considerably from those of the European inhabitants of those empires.

As Europe is the seat of letters and arts, and the greatest exertions of human energy in every department; and is besides the native region of the chief modern geographers, and that in which the readers are most intimately and deeply interested, it is always the division first treated; though the order is arbitrary, and Ptolemy, who has been styled the father of geography, begins indeed with Europe, but describes Africa before Asia\*. Before proceeding more minutely to consider the several kingdoms and states comprised in this great division of the globe, it will be proper, in compliance with an usual and unobjectionable form, to offer a brief and general description of this distinguished portion of the earth.

## EUROPE.

**EXTENT.]** THIS part of the globe is the smallest in extent, yielding considerably to Africa. From the Portuguese cape, called by our mariners the Rock of Lisbon, in the west, to the Uralian mountains in the east, the length may be about 3,300 British miles; and the breadth from the North Cape in Danish Lapland, to Cape Matapan, the southern extremity of Greece, may be about 2,350. The contents in square miles have been calculated with such diversity of opinion, such estimates being in truth arbitrary and only comparative, that it is sufficient to mention the medial number of about two millions and a half.

**LIMITS.]** The ancients had no just ideas of the boundaries of Europe, the name itself having seemingly originated from a small district near the Hellespont, as the distinctive name of Asia also spread from the opposite shore. More than a third part of Europe towards the north and east has only been known with precision in modern times; on the south, the continental part is limited by the Mediterranean sea, on the west by the

\* The best edition of his maps, Amst. 1730, places Africa first.

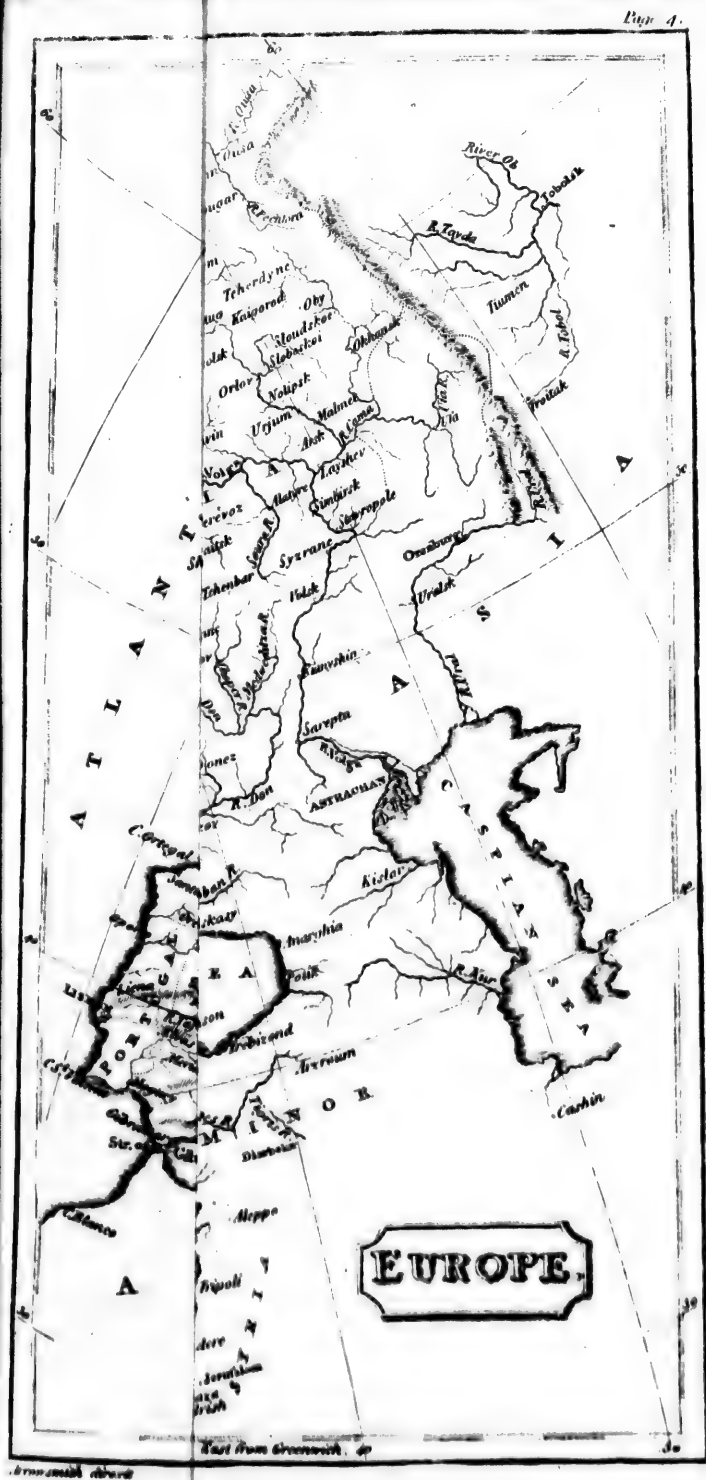
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Atlantic, which contains the furthest European isles, those of the Azores and Iceland, Greenland being regarded as a part of North America. On the north the boundary is the Arctic ocean, embracing the remote isles of Spitzbergen and Novaya Zemlia, or the New Land. Toward the east the limits admit of some discussion. The Uralian mountains, a grand natural limit, not extending to the Arctic ocean; the river Kara, which flows into the sea of Karlskoy, is admitted as a boundary. The Uralian boundary extends to about 56 degrees of north latitude : to the south of which the grand confines of Europe and Asia have been sought in the petty distinctions of Russian governments. More natural limits might be obtained by tracing the river Oufa from its source to its junction with the Belaia. Thence along the Kama to the Volga, which would constitute a striking natural division, to the town of Sarepta; whence a short ideal line, the only one admitted in this delineation, will lead due west to the river Don, which would complete the unascertained boundary; that on the north and west of the Euxine being clear and precise.

[ANCIENT POPULATION.] The ancient population of Europe consisted of the Celts in the west and south; the Fins in the north-east, and the Laps or Laplanders, a diminutive race like the Samoieds of Asia, in the furthest north, and who seem to have enriched their original rude language by adopting in a great measure that of their more civilized neighbours the Fins. Those ancient inhabitants, who seem to have been thinly scattered, were driven towards the west and north by the Scythians or Goths from Asia, whose descendants occupy the greater part of Europe; by the Sarmatians or Slavonic tribes, also from Asia, the ancestors of the Russians, Poles, &c. and who were accompanied by the Heruli, using what is now called the Lettic speech, to be found in Prussia, Lithuania, Samogitia, Courland, and Livonia, being akin to the Slavonic language\*, yet with many shades of distinction. From Africa the colony of Iberi, and northern Mauretani, passed into Spain at a very early period. The later accession of Hungarians and Turks from Asia may likewise be commemorated.

[PROGRESSIVE GEOGRAPHY.] The progressive geography of Europe will be more aptly illustrated in the descriptions of each kingdom and state. Suffice it here to observe that the ablest modern geographers, not excepting D'Anville himself, have greatly erred in their views of the ancient knowledge of Europe. Of Scandinavia the ancients only knew the southern part as far as the lakes of Weter and Wener. The Roman ships explored the southern shores of the Baltic as far as the river Rubo or the western Dwina, and discovered the names of several tribes along the shores; but of the central parts of Germany it is evident from the maps of Ptolemy that they had no just ideas: so that the tribes which he enumerates may be more justly assigned to the northern parts along the Baltic, or to the southern on the left of the Danube. The Carpathian or Sarmatian mountains were well known, but the line of 50° or 52° of north latitude must confine the ancient knowledge in the north-east. A singularity in the ancient descriptions has often misled: for as the mountains in the savage state of Europe were crowned or accompanied with forests, the same term was used in several barbarous languages to express either; so that the ancients often place important mountains where the hand of nature had only planted large forests. This remark

\* Took's View of Russia, i. 455.

becomes essential in the comparison of ancient and modern geography. The Rhipæan mountains are vainly supposed to have been the Uralian chain, which were to the ancients hid in the profoundest darkness, instead of a large forest running from east to west. The Sevo Mons of Pliny, which he positively assigns to the north of Germany, though geographers in direct opposition to his text transfer it to Norway, a region almost as unknown to the ancients as America, must be regarded as a vast forest extending to some promontory: and the Venedici Montes of Ptolemy are in the like predicament, for modern knowledge evinces that no such mountains exist. Of all sciences perhaps geography has made the most slow and imperfect progress; and the first restorers of it place at random many grand features of nature, instead of pursuing the recent and just plan of giving an exact delineation of the country, and afterwards exploring the real extent of ancient knowledge.

**RELIGION.]** The Christian religion prevails throughout Europe except in Turkey, where however at least one-half of the inhabitants are attached to the Greek church. Wherever the Christian faith has penetrated, knowledge, industry, and civilization have followed: among the barbarous tribes in the north the progress was unhappily slow, Scandinavia remaining Pagan till the eleventh century; and some Slavonic tribes on the south of the Baltic till the thirteenth; nay, it is not above a century since the Laplanders were converted by missions from Denmark. The two grand distinctions are Catholics and Protestants: the former in the south, where the passions are more warm and the imagination more delighted with splendour; the latter in the north, where the satisfaction of the judgement predominates.

This universality of the Christian religion has been followed by another superlative advantage, that of constituting all Europe, as it were, into one republic, so that any useful discovery made in one state passes to the rest with celerity. In this respect Europe has been compared to ancient Greece; and it is to be hoped that Russia will not prove another Macedon.

**CLIMATE.]** This fair portion of the globe is chiefly situated in the temperate zone, if such distinctions have not vanished from geography, since modern discoveries have evinced, that the climate often depends on local causes; that the Alps in a southern latitude present mountains of ice unknown in Lapland; that the torrid zone abounds with water and habitations, and may perhaps contain mountains covered with snow. Yet freedom from the excessive heats of Asia and Africa has contributed to the vigour of the frame, and the energy of the mind.

**INLAND SEAS.]** In a general view of Europe one of the most striking and interesting features is the number and extent of the inland seas; justly regarded as chief causes of the extensive industry and civilization, and consequent superiority to the other grand divisions of the globe. Had Africa been intersected by a large inland sea from the west, it is probable that the blessings of industry would have been widely spread. Among inland seas the Mediterranean is justly pre-eminent, having been the centre of civilization to ancient and modern Europe. The columns of Hercules marked its western boundary; being the mountain or rock of Abyla, in Africa, now called Ceuta, and Kalpe in Spain, the Gibraltar of modern fame. The length of the Mediterranean is about 2000 miles to its farthest extremity in Syria; but in ancient maps the length has been extended to about 2500 miles. On its northern side open two large gulfs, that of Venice and the Archipelago; the former being the Adriatic, the latter

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the Egean sea of the ancients. From this last a strait called the Hellespont conducts to the sea of Marmora, the classical Propontis: and another now styled the strait of Constantinople, the ancient Thracian Bosphorus, leads to the Euxine or Black sea; which to the north presents the shallow Palus Mæotis, or sea of Azof, the utmost maritime limit of Europe in that quarter. This wide expanse of the Mediterranean is beautifully sprinkled with islands, and environed with opulent coasts, abounding with the most sublime and picturesque features of nature: tides are not perceivable except in the narrowest straits; but according to naturalists there is a current along the Italian shore from the west to the east, and towards the African coast in an opposite direction. In the Adriatic the current runs north-west along Dalmatia and returns by the opposite shore of Italy. The Mediterranean abounds with fish, many of which are little known in more northern latitudes. The chief fisheries are those of the tunny, of the sword-fish, and of the sea-dog, a species of shark, and of the diminutive anchovy. It is also the chief seminary of coral, now known to be the work of marine insects. This supposed plant is of three colours, the red, the vermilion, and the white; and its greatest height is about eleven inches. It is equally hard in the sea and in the air; and is generally brought up by a kind of net from the depth of 60 to 125 feet. To enumerate and ascertain shoals and rocks is the office of the hydrographer; but fishing banks are of general importance, and some are found near Sicily. The Black sea is said to derive its name from its black rocks or dangerous navigation; but it is difficult to account for such terms often derived from the fertile and superstitious fancy of mariners. The sea of Azof is polluted with mud, whence it was styled Palus, or a marsh, by the ancients: it is united to the Euxine by the strait of Caffa, the ancient Cimmerian Bosphorus.

The second grand inland sea of Europe is the Baltic, by the Germans called the Eastern sea; whence the Easterlings of English history, people from the shores of the Baltic. This extensive inlet opens from the German sea by a gulf pointing N. E. called the Skager Rack; and afterwards passes south in what is called the Cattegat, to the S. E. of which is the Sound of Elsinore, a strait where vessels pay a tribute of courtesy to Denmark. The Baltic afterwards spreads widely to the N. E. and is divided into two extensive branches called the gulphs of Bothnia and Finland, both covered or impeded with ice for four or five months of the northern winter. Ancient historians even report that wolves have passed on the ice from Norway to Jutland; and if voracious the rigour of the seasons must have greatly abated. The greatest depth of this sea is said not to exceed fifty fathoms. Swedish naturalists pronounce that it loses about four feet in extent in the course of a century; and that the water does not contain above one-thirtieth part of salt, whereas other seawater often holds a tenth: this freshness they impute to the quantity of ice; and they also assert, that when the north wind blows, the waters become so fresh that they may even be employed for domestic uses. Tides are unknown, and the fish are few.

The third and last inland sea of Europe is that called the White Sea in the north of Russia, more known in Europe, and particularly to English enterprize, before the commerce of Archangel was supplanted by that of Peterburgh. To Olof, in the reign of the great Alfred, it was known by the name of the Qven sea; and the Icelandic writers styled it the sea of Ganviik, on the shore of which was their Biarmia. The White Sea contains a number of small islands; but the accounts yet given have been brief and unsatisfactory.

Among the other maritime divisions may be named the German sea, so called because it waters the western shores of ancient Germany, from the Rhine to the extremity of Jutland. It is now often styled, with sufficient impropriety, the North sea, a term probably adopted by us from the Dutch. It may be regarded as a part of the Atlantic ocean, terminating at the straits of Dover; whence the British Channel extends to the west. The bay of Biscay is another large inlet of the Atlantic. The Bristol Channel is rather the estuary or wide frith of the Severn. Between Great Britain and Ireland are St. George's Channel on the south; the Irish sea in the center, which leads to the North Channel. That part of the Atlantic which passes between Scotland and the extreme range of the western isles from Barra to Lewis has received no distinct appellation, though it may be aptly styled the Hebrudian Channel. To the north of Scotland is the Deucædonian sea of the ancients; which being considered as extending into and throughout the Baltic was also styled the Sarmatian.

To the north of Europe is the Arctic ocean; the dismal and solitary reservoir of myriads of miles of ice, the very skirts of which, floating in enormous mountains, crowned with brilliant pinnacles of every hue, delight the eye and appal the heart of the mariner. Yet this enormous waste is in the hand of Providence a fertile field of provisions for the human race. Here the vast battalions of herrings seem to seek a refuge from numerous foes, and to breed their millions in security. About the middle of winter emerging from their retreat they spread in three divisions; one towards the west, which covers the shores of America as far as the Chesapeake and Carolina, while another more minute squadron passes the strait between Asia and America, and visits the coasts of Kamtschatka. The most memorable division reaches Iceland about the beginning of March, in a close phalanx of surprising depth, and such extent that the surface is supposed to equal the dimensions of Great Britain and Ireland. They are however subdivided into numberless columns of five or six miles in length and three or four in breadth, followed by numerous sea fowl, and perceivable by the rippling of the water and a brilliant reflexion like that of a rainbow. In April or May the vanguard of those allotted to the British dominions reaches Shetland, and the grand body arrives in June; towards the end of which month and through that of July they are in the greatest perfection, a circumstance well known to the Dutch fishers, who then caught that superior sort which formed the grand source of the wealth of the United Provinces. From Shetland one division proceeds towards the east as far as Yarmouth, where they appear in October. The other brigade passes to the west along both shores of Ireland. A few stragglers are found at irregular periods, having proceeded beyond their powers of return; but it is generally credited that millions regain the Arctic ocean and deposit their spawn about the month of October.

To enumerate the smaller gulfs, the straits, and other minute diversities of the seas, either in a feeble series of names, or in a dry arithmetical table, would be superfluous, as they are best studied in the maps, and as that mode of communicating science is perhaps of all others the most uncouth and repulsive. As well might history be studied by the barren repetition of a hundred names of statesmen and warriors. But this account of the European seas must not be closed without a few brief hints on a subject generally neglected in works of this nature, the large banks or comparative shoals, supposed to be ridges of submarine mountains, and which being frequently the resort of cod and other fish, invite the attention of national industry. The Goodwin sands, off the coast of

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Kent, are rather dangerous to the mariner than inviting to the fisher; but on the coast of Holland there are many banks which supply excellent fish, as turbot, soal, plaice, &c. Further to the north is the extensive Dogger-bank, stretching south-east and north-west; beginning about twelve leagues from Flamborough head, and extending near 72 leagues towards the coast of Jutland. Between the Dogger and the Well bank to the south are the Silverpits of the mariners, which supply London with cod, a fish which loves the deep water near the banks, while the flat fish delight in the shallows. Near the Dogger-bank was fought the noted engagement with the Dutch in 1781. The Ore and the Lemon lie between these banks and the British shores. To the north-east of the Dogger-bank is the Hornriff, a narrow strip extending to Jutland: the Jutts-riff is a sand-bank, stretching like a crescent from the mouth of the Baltic into the German sea.

The Mar-bank begins opposite to Berwick, but is only about fifteen miles in length. Further to the east extends the Long Fortys, of great extent, from Buchan Nefs to Newcastle, and from 40 to 100 miles distant from the shore. From the coast of Buchan a bank also reaches across the German sea towards the Jutts-riff. What are called the Montrose Pits, as being in the latitude of that town, though to the east of the Long Fortys, are hollows from three to four miles in diameter, from seventy to one hundred fathom deep, with a soft muddy bottom, in a bank of gravel about fifty miles long, under forty fathom of water.

In the open Atlantic the largest bank is that of Newfoundland, reserved for the description of the American seas; but there is a considerable bank to the west of the Hebudes abounding with cod and other fish.

**RIVERS AND MOUNTAINS.]** The chief rivers of Europe are described under the respective countries through which they flow. Of the vast Wolga far the greater part is included in Europe: the Danube is the next in fame; and is followed by the Dneiper or Nieper, the Rhine, and the Elbe. The most elevated mountains are the Alps, which are followed by the Pyrenees and the extensive ridge which divides Norway from Sweden. The Carpathian mountains, and the chain of Emineh or Hæmus, are, with the Appenines, of inferior extent and height. In the particular descriptions, these grand and immoveable features of nature, which unaccountably have only attracted due attention within these few years, will be found to be illustrated as far as the materials would permit.

**GOVERNMENTS.]** The kingdoms and states of Europe may be considered, 1. As despotic monarchies, as those of Russia and Turkey. 2. Absolute monarchies, as Spain, Denmark, &c.: or, 3. Limited monarchies, as the empire of Germany, kingdom of Great Britain, &c. Since the fall of Venice, and the subversion of Swisserland and Holland, scarcely an example occurs of permanent and fixed aristocracy, or the hereditary government of nobles. Of democracy, or, more strictly speaking, elective aristocracy, a few cities and some Swiss cantons may preserve a semblance; while France at the present hour is a military despotism under the name of an empire.

**ARRANGEMENT.]** According to the plan of this work already explained, the various states of Europe will be arranged in three divisions, considering them, according to their real consequence, as of the first, second, or third order; and each will be treated at a length proportioned to its weight in the political scale, and the consequent interest which it inspires. A small state may indeed sometimes excite a more just curiosity than one of larger dimensions; but such considerations

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are foreign to an exact system of geography, detailed in a precise order of topics, and extended with impartial views over the whole circle of human affairs. Foreigners may object that too much space is allotted to the British dominions; but the same objections might extend to every system ancient and modern, as the authors have always enlarged the description of the countries in which they wrote. His native country ought also to be the chief subject of every reader; nor can much useful knowledge (for our knowledge chiefly springs from comparison) be instituted concerning foreign regions till after we have formed an intimate acquaintance with our native land. It will also be understood, that though no point of science is more simple or clear than the arrangement of states according to their separate orders at a given period, yet it would be alike idle and presumptuous to decide the precise rank of a state in each order; for instance, whether France or Russia be the more powerful. This part of the arrangement must therefore be elective; and it is sufficient that the states of the same order be treated with a similar length of description.

At the beginning of the nineteenth century the European states comprized in the first order are: 1. The united kingdoms of Great Britain and Ireland: 2. France: 3. Russia: 4. The Austrian dominions: 5. Those of Prussia: 6. Spain: 7. Turkey: which last cannot be so justly reduced to the second order; for though perhaps approaching its fall, still it boasts the name and weight of an empire.

Under the second order have been arranged: 1. Holland or the United Provinces: 2. Denmark: 3. Sweden: 4. Portugal: 5. Switzerland. In the third are considered the chief states of Germany, that labyrinth of geography, and those of Italy. The kingdoms of Sicily and Sardinia might perhaps, if entire and unshaken, aspire to the second order: and an equal station might be claimed by the junctive Electorate Palatine and Bavarian, and by that of Saxony. But as such states only form rather superior divisions of Germany and Italy, it appeared more advisable to consider them in their natural intimate connexion with these countries.

This explanation being premised, the first description shall be that of the British dominions.

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## ENGLAND.

### CHAPTER I.

#### HISTORICAL OR PROGRESSIVE GEOGRAPHY.

*Names. — Extent. — Original Population. — Roman, Saxon, and Norman Geography. — Historical Epochs, and Antiquities.*

**NAMES.]** THE Phenicians are generally supposed to have discovered Great Britain and Ireland at a period of very early antiquity; and some suppose that the name of Britain originates from a Phenician word, while others with more probability infer it to have been an indigeneal term derived from the Bretons, tribes of which appellation may be traced in Gaul and Seythia. Among the first objects of the Phenician intercourse

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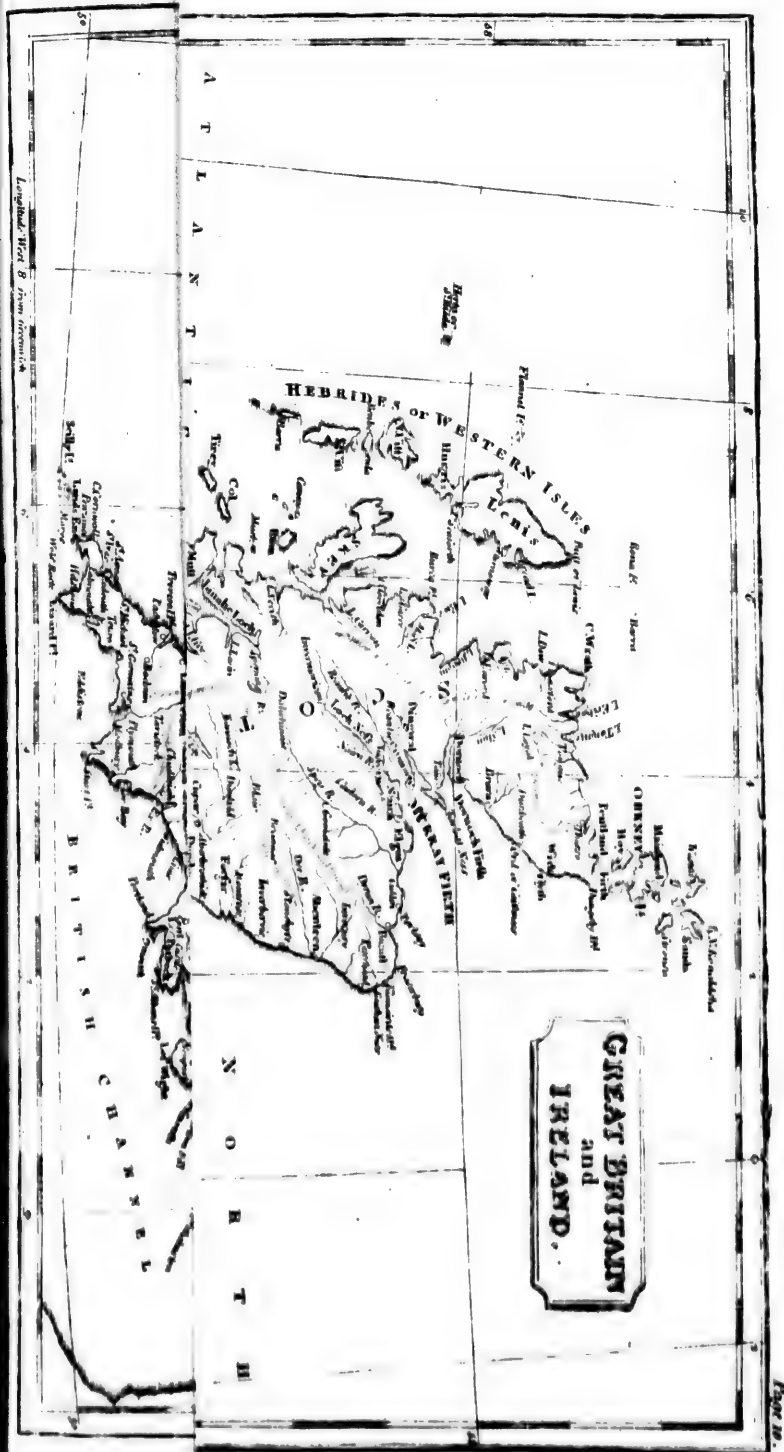
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tercourse was tin, whence the Greek name of Cassiterides or the islands of tin, a name which in its first acceptation seems to have extended to Great Britain and Ireland, though afterwards confined to the isles of Scilly, where the metal does not appear to have been traced in modern times.

The name of Anglia or England is well known to have originated from the Angles, a nation of the Cimbric Chersonese or modern Jutland, who settled in the northern parts in the sixth century. The ecclesiastical history of Beda, written in that part of the country which was possessed by the Angli, seems to have contributed greatly to the extension and general acceptance of the modern name.

EXTENT.] The island of Great Britain extends from fifty to fifty-eight and a half degrees of north latitude, being about 500 geographical miles in length. Its greatest breadth, from the Land's End to the North Foreland in Kent, 320 geographical miles. In British miles the length may be computed at 580, and the breadth at 370.

England is bounded on the east by the German ocean; on the south by the English channel; on the west by St. George's Channel; on the north by the Cheviot Hills, by the pastoral river Tweed, and an ideal line falling south-west down to the Firth of Solway. The extent of England and Wales in square miles is computed at 58,335; and the population being estimated at 9,500,000, the number of inhabitants to a square mile will be about 162.

ORIGINAL POPULATION.] The earliest inhabitants of England are supposed to have been the Gael or Southern Celts, called Guydels by the Welsh, who regard them as their predecessors. Those tribes seem to have arrived from the nearest shores of France and Flanders, and were followed by the Cymri or Cimbri from the same regions whence the Angles afterwards proceeded. But the Cimbri were northern Celts, the ancestors of the modern Welsh. The Scythians or Goths from Asia having seized on Germany and a great part of Gaul, gradually repelling the Celts towards the west, appear to have sent colonies into England three or four centuries before the Christian era; for Cæsar found many tribes of the Belgæ, a German or Gothic nation, established on the south and east of Britain. Those Belgæ may be justly regarded as the chief ancestors of the English nation; for the Saxons, Angles, and other northern invaders, though of distinguished courage, were inconsiderable in numbers, and the English language bears more affinity to the Frisic and Dutch than to the Jutlandic or Danish.

In the course of four centuries of subjection to the dominion of the Romans, even the Belgic colonies, unaccustomed to the use of arms, had forgotten their former valour. Pressed by ferocious invaders, they seem to have invited to their assistance dangerous allies from the continent. The Jutes arrived in the year 449, and founded the kingdom of Kent about the year 460; they also took possession of the isle of Wight. In 447 the Saxons first appear, and the kingdom of the South Saxons commences at that epoch. The West Saxons arrived in the year 495. The sixth century was considerably advanced when those barbaric colonies were increased by the East Saxons in the year 527; but the first appearance of the great branch of the Angles, who were to perpetuate their name in the country at large, did not occur till the year 547, when the valiant Ida led his troops to Bernicia. The East Angles taking possession of Norfolk in the year 575, the southern and eastern coasts were almost wholly in the power of the invaders, who, soon extending their conquests into the interior of the country, founded in the year 585 the kingdom

kingdom of Mercia, the last of the Heptarchy. Bede pronounces Mercia to have been an Anglic kingdom; and if so, the Angles might perhaps have equalled in number the Saxons themselves.

PROGRESSIVE GEOGRAPHY.] The knowledge of the progressive geography of any country is indispensably necessary for the elucidation of its history. In the Roman period England was divided into the following large provinces.

Britannia Prima, the whole southern part as far as the mouths of the Severn and the Thames.

Britannia Secunda, Modern Wales.

Flavia Cæsariensis, from the Thames to the Humber.

Maxima Cæsariensis, from the Humber to the Tyne, from the Mersey to the Solway.

A more detailed account of the Roman divisions of England properly belongs to ancient geography; and the curious reader may be referred to the works of Horsley and Roy, authors of deserved estimation.

Of the Saxon geography an idea may be derived from the following table.

- |                                          |                                                                                                                                                              |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Kent comprehended the county of Kent. |                                                                                                                                                              |
| 2. Suffex, or the South Saxons.          | { Suffex.<br>Surrey.<br>Norfolk.                                                                                                                             |
| 3. East Angles.                          | { Suffolk.<br>Cambridgeshire, with the isle of Ely.<br>Cornwall.<br>Devonshire,<br>Dorset.                                                                   |
| 4. Wessex, or the West Saxons.           | { Somerset.<br>Wilts.<br>Hants.<br>Berks.<br>Lancashire.<br>Yorkshire.<br>Durham.                                                                            |
| 5. Northumberland,                       | { Cumberland.<br>Westmoreland.<br>Northumberland, and the parts of Scotland to the Frith of Edinburgh.                                                       |
| 6. Essex, or the East Saxons,            | { Essex.<br>Middlesex.<br>Hertfordshire in part.<br>Gloucester.<br>Hereford.<br>Warwick.<br>Worcester.<br>Leicester.<br>Rutland.<br>Northampton.<br>Lincoln. |
| 7. Mercia.                               | { Huntingdon.<br>Bedford.<br>Buckingham.<br>Oxford.<br>Stafford.<br>Derby.                                                                                   |

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The division into shires is said to have been instituted by the great Alfred. These departments are also styled counties, as having been each governed by a Count in the Saxon times, styled Ealdorman, and after the Danish conquest called Earl, from the Danish Earl, implying a great man. The dignity and title becoming hereditary, the government of the county devolved upon the Earl's deputy the Shire-reeve, sheriff or manager of the shire. Yorkshire being very extensive it was divided into three parts called in Saxon trithings, as a farthing is a fourth part, and now corruptly called Ridings.

England proper is divided into forty counties, and the principality of Wales into twelve, thus making the whole number of counties in South Britain fifty-two; of which the following is a list, together with their respective chief towns.

|                            |                  | Number of Inhabitants<br>according to the late<br>Enumeration. |             | Chief Towns. |
|----------------------------|------------------|----------------------------------------------------------------|-------------|--------------|
| Six northern<br>counties   | Northumberland   | 157,101                                                        | Newcastle   |              |
|                            | Cumberland       | 117,230                                                        | Carlisle    |              |
|                            | Durham           | 160,361                                                        | Durham      |              |
|                            | Yorkshire        | 858,892                                                        | York        |              |
|                            | Westmoreland     | 41,617                                                         | Appleby     |              |
| Four bordering<br>on Wales | Lancashire       | 672,731                                                        | Lancaster   |              |
|                            | Cheshire         | 191,751                                                        | Chester     |              |
|                            | Shropshire       | 167,639                                                        | Shrewsbury  |              |
|                            | Herefordshire    | 89,191                                                         | Hereford    |              |
|                            | Monmouthshire    | 45,582                                                         | Monmouth    |              |
| Twelve midland             | Nottinghamshire  | 140,350                                                        | Nottingham  |              |
|                            | Derbyshire       | 161,142                                                        | Derby       |              |
|                            | Staffordshire    | 239,153                                                        | Stafford    |              |
|                            | Leicestershire   | 130,081                                                        | Leicester   |              |
|                            | Rutlandshire     | 16,356                                                         | Okeham      |              |
|                            | Northamptonshire | 131,757                                                        | Northampton |              |
|                            | Warwickshire     | 208,190                                                        | Warwick     |              |
|                            | Worcestershire   | 139,333                                                        | Worcester   |              |
|                            | Gloucestershire  | 250,809                                                        | Gloucester  |              |
|                            | Oxfordshire      | 109,620                                                        | Oxford      |              |
| Eight eastern              | Buckinghamshire  | 107,444                                                        | Aylesbury   |              |
|                            | Bedfordshire     | 63,393                                                         | Bedford     |              |
|                            | Lincolnshire     | 208,557                                                        | Lincoln     |              |
|                            | Huntingdonshire  | 37,568                                                         | Huntingdon  |              |
|                            | Cambridgeshire   | 89,346                                                         | Cambridge   |              |
|                            | Norfolk          | 273,371                                                        | Norwich     |              |
|                            | Suffolk          | 210,401                                                        | Ipswich     |              |
|                            | Essex            | 226,407                                                        | Chelmsford  |              |
| Three south-<br>eastern    | Hertfordshire    | 97,577                                                         | Hertford    |              |
|                            | Middlesex        | 818,129*                                                       | London      |              |
|                            | Surrey           | 269,043                                                        | Guildford   |              |
|                            | Kent             | 307,624                                                        | Maidstone   |              |
|                            | Sussex           | 159,311                                                        | Lewes       |              |

\* Exclusive of the capital.

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Number of Inhabitants  
according to the late  
Enumeration. Chief Towns.

|                     |                  |         |             |
|---------------------|------------------|---------|-------------|
| Four southern       | Berkshire        | 109,215 | Reading     |
|                     | Wiltshire        | 185,107 | Salisbury   |
|                     | Hampshire        | 219,656 | Winchester  |
|                     | Dorsetshire      | 115,319 | Dorchester  |
| Three south-western | Somersetshire    | 273,750 | Taunton     |
|                     | Devonshire       | 343,001 | Exeter      |
|                     | Cornwall         | 188,269 | Launceston  |
|                     | Flintshire       | 39,622  | Flint       |
| Six, North Wales    | Denbighshire     | 60,352  | Denbigh     |
|                     | Caernarvonshire  | 41,521  | Caernarvon  |
|                     | Anglesey         | 33,806  | Beaumaris   |
|                     | Merionethshire   | 29,506  | Bala        |
|                     | Montgomeryshire  | 47,978  | Montgomery  |
|                     | Radnorshire      | 19,050  | Presteign   |
| Six, South Wales    | Cardiganshire    | 42,956  | Cardigan    |
|                     | Pembrokeshire    | 56,280  | Pembroke    |
|                     | Caermarthenshire | 67,317  | Caermarthen |
|                     | Brecknockshire   | 31,633  | Brecknock   |
|                     | Glamorganshire   | 71,525  | Caerdiff    |

It is also generally believed that Alfred founded the subdivisions of counties called Hundreds and Tythings, now seldom mentioned except in legal proceedings and in topographical descriptions. The Hundred probably contained one hundred farms, while the Tything was restricted to ten.

In the Norman period of English history few alterations of consequence appear in the geography. Cumberland and Westmoreland were wrested from the Scots, and the provinces north of the Humber, which had maintained a kind of independence after the extinction of the Danish kingdom of Northumbria, were completely incorporated with the monarchy. On the west Henry I. about the year 1120 having conquered a part of Wales, invited and established a Flemish colony in Pembrokeshire, and one or two others of the most southern counties, which afterwards became remarkable for industry. The subsequent conquest of Wales by Edward I. and its gradual association with England, are sufficiently known.

**HISTORICAL EPOCHS.]** Geography has been styled one of the eyes of history, a subservience to which study is undoubtedly one of its grand objects; but it would at the same time be foreign to its nature to render it a vehicle of history. The proper and peculiar subjects of geographical science are so ample, and often attended with such difficult research, that it becomes equally rash and unnecessary to wander out of its appropriated domain. In this work therefore it is only proposed briefly to mention the grand historical epochs of nations, and those events which have altered their boundaries and geographical relations.

1. The population of England by the Celts.
2. The Belgic colonies, who introduced agriculture.
3. The Roman conquest. Britain was little more than seen by Julius Cæsar. The Roman conquest began in the reign of Claudius, and in that of Domitian the Roman Eagle had been displayed as far as the Grampian mountains.
4. The arrival of the Saxons and Angles in the fifth century.

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5. The Danish conquest, A.D. 1016. The Danish monarchs of England were Canute, Harold, and Hardicanute; but the sceptre returned to the Saxon line A.D. 1042.

6. The Norman conquest, A.D. 1066.

7. The great charter granted by John at Runnymede.

8. Not to mention the conquest of Wales and the temporary subjugation of Scotland, the civil wars between the houses of York and Lancaster may be regarded as the next memorable epoch.

9. The reformation introduced by Henry VIII. and Elizabeth.

10. The civil wars under Charles I.

11. The Revolution of A.D. 1688.

12. The war with the American colonies forms not only an epoch of singular novelty, but of the most important consequences.

ANTIQUITIES.] The ancient monuments of a country are intimately connected with the chief epochs of its history, and particularly with the revolutions it has undergone by foreign conquest or new population. The English antiquities fall into six divisions. 1. Those belonging to the primitive Celtic inhabitants. 2. Those of the Belgic colonies. 3. Those of the Romans. 4. Those of the Saxons. 5. Reliques of the Danes. 6. Norman monuments. Few of those remains, it must be confessed, throw much light upon history; but many of them being interesting and curious in themselves, they deserve the attention of the traveller and geographer.

Those of the first Celtic inhabitants were probably, as usual among savage nations, constructed of wood, and of course there can be no remains. Some rude barrows and heaps of stones may perhaps belong to the Druidic tribes, but Stonehenge, the large Barrows or tumuli, &c. &c. more probably belong to the Belgic colonies. Stonehenge is situated near the capital of the ancient Belgæ, and there is a similar monument, but said to be of far greater extent, near Vannes, a town on the French coast which was possessed by the Belgæ. Singular monuments also occur in Denmark and Sweden, and in Iceland even the date of erection is sometimes ascertained, these circles being familiarly known by the name of *Domb-rings*, that is literally Doom-ring or Circle of Judgment, being the solemn places where courts were held. Yet Stonehenge will be found on inspection to fall short of the ridiculous exaggerations of antiquaries, impressing every traveller after the perusal of such accounts with disappointed ideas of smallness and want of importance. Such ideas are however unjust, as it is a noble and curious monument of early times. There appear to be three principal circles of stones, the outer connected together by an uniform pavement as it were at the top, to which the chiefs might ascend and speak to the surrounding crowd. A second circle consists of detached upright stones about five feet in height, while the highest are eighteen. Within this is a grand oval, originally consisting of five trilithons of two huge stones crossed by another at the top and inclosing smaller stones, which seem to have been seats, and a large flat stone commonly called the altar, but which seems to have been the throne or seat of judgment. There is besides a very high stone, towards the north-east or rising sun, and near this a large flat stone encompassed with a mound, which is probably the real altar on which human victims were sometimes sacrificed. There are also two other stones at a considerable distance to the E. and W., and the whole seems to be in the midst of a very extensive circle, marked by an earthen embankment almost effaced by the lapse of years, and affording sufficient space for all the males of the tribe or nation. The largest stones are of silicious sandstone,

stone, but the altar, or rather throne, is a calcareous sand-stone \*. The smaller stones are of grunstein or hornblend mixed with felspar. On its first erection the appearance must have been striking, the large stones being of pure white and the smaller black.

After the establishment of Christianity the circles of judgment, which had been polluted with human sacrifices and other pagan rites, were abandoned, and the great courts were held on what were called Moot-hills or hills of meeting, many of which still exist in the British dominions and in the Netherlands.

The Roman antiquities of England have been repeatedly illustrated. The greatest number of Roman inscriptions, altars, &c. has been found in the north along the great frontier wall which extended from the western sea to the estuary of Tyne. The Roman roads were also striking monuments of their power. A grand trunk, as it may be called, to anticipate the language of our inland navigations, passed from the south to the north, and another to the west, with branches in almost every direction that general convenience and expedition could require. What is called the Watling-street led from Richborough in Kent, the ancient Rutupiae, N. W. through London to Chester. The Ermin-street passed from London to Lincoln, thence to Carlisle and into Scotland, the name being supposed to be corrupted from *Herman*, which means, warrior, as the chief wars lay in the north. The Fosse way is supposed to have led from Bath and the western regions N. E. till it joined the Ermin-street. The last celebrated road was the Ilkenild, or Ikeld, supposed to have extended from near Norwich S. W. into Dorsetshire †.

The Saxon antiquities in England are chiefly edifices, sacred or secular; some churches remain which were for the most part constructed in the Saxon period, and some are extant of the tenth or perhaps the ninth century. The vaults erected by Grimbold at Oxford in the reign of Alfred are justly esteemed curious relics of Saxon architecture. Mr. King has ably illustrated the remains of the Saxon castles. The oldest seem to consist of one solitary tower, square or hexagonal: one of the rudest specimens is Coningsburg Castle in Yorkshire; but as that region was subject to the Danes till the middle of the tenth century it is probably Danish. Among the smaller remains of Saxon art may be mentioned the shrines for preserving relics, which some suppose to present the diminutive rudiments of what is styled the Gothic architecture; and the illuminated manuscripts, which often afford curious memorials of the state of manners and knowledge.

The Danish power in England, though of considerable duration in the north, was in the south brief and transitory. The camps of that nation were circular like those of the Belgæ and Saxons, while those of Roman armies are known by the square form: and it is believed that the only distinct relics of the Danes are some castles to the north of the Humber and a few stones with Runic inscriptions.

The monuments styled Norman, rather to distinguish their epochs than from any information that Norman architects were employed, are reputed to commence after the conquest, and to extend to the fourteenth century; when what is called the rich Gothic began to appear, which in the sixteenth century was supplanted by the mixed; and this in its turn yielded to the Grecian. In general the Norman style far exceeds the Saxon in the size of the edifices and the decoration of the parts. The churches become more extensive and lofty, and though the windows re-

\* Townson's Tracts, 228.

† Gough's Brit. Topog. i. 20.

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tain the circular arch they are larger and more diversified ; the circular doors are festooned with more freedom and elegance, and uncouth animals begin to yield to wreaths of leaves and flowers. The solitary keep or tower of the Saxon castle is surrounded with a double wall, inclosing courts or dwellings of large extent, defended by turrets and double ditches, with a separate watch-tower called the Barbican. Among others the cathedrals of Durham and Winchester may be mentioned as venerable monuments of Anglo-Norman architecture, and the castles are numerous and well known. What is called the Gothic or pointed arch is generally supposed to have first appeared in the thirteenth century, and in the next it became universal in religious edifices. The windows diffused to great breadth and loftiness and divided into branching interstices, enriched with painted glass, the clustering pillars of excessive height spreading into various fret-work on the roof, constitute, with decorations of smaller note, what is called the rich Gothic style, visible in the Chapel of King's College, Cambridge, and many other grand specimens in this kingdom. The spire of those edifices corresponds with the rest, and begins about the thirteenth century to rise boldly from the ancient tower and diminish from the sight in a gradation of pinnacles and ornaments.

## CHAPTER II.

## POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Judicature and Laws.—Population.—Army.—Navy.—Revenues.—Political Importance and Relations.*

RELIGION AND ECCLESIASTIC GEOGRAPHY.] THE church of England is established upon a most peculiar basis, and truly characteristic of a moderate and judicious nation. As in the political system extremes, the usual concomitant of inexperience, are carefully avoided, and despotism or anarchy from whatever source, monarch, nobles, or people, prevented as far as human wisdom can devise ; so in the church, while the papal power and other catholic chains are proscribed, the other extremes tending to loose democracy are equally avoided. It is the only reformed church which has retained the episcopal form in its ancient splendour ; for though bishops may also be found in Denmark, Sweden, Norway, &c. they are rather inspectors of the conduct of the clergy and of the modes of education, than prelates endowed with senatorial rank and dignity. In England on the contrary, the bishops are peers of parliament, and have the style and importance of nobility. Yet the creed of the English church is rather Calvinistic than Lutheran. But the special tenets of the English church are sufficiently explained in the thirty-nine articles ; and a brief idea of its government will be more pertinent to the present purpose.

Upon his dispute with the pontiff to avoid any claims of superiority, Henry VIII. seized the title of supreme head of the national church. Next in dignity and power are the archbishops of Canterbury and York, the first being styled Primate of all England, and the second Primate of England. The archbishop of Canterbury precedes all persons except the royal family ; he has the power of probate of all testaments within his province, and of granting several dispensations concerning benefices ; he has also four courts of judicature, that of Arches, of Audience, of Prerogative,

gative, and of Peculiars. In other respects the archiepiscopal office is rather a dignity than a jurisdiction, and the primates rarely interfere in any dioceses except their own. They are appointed by the king in the same manner as the bishops, by what is called a *Congé d'Elire*, or leave to elect.

Upon any vacancy in an episcopal see, the dean and chapter apply to the king, who returns a *Congé d'Elire*, naming the person to be chosen. A chapter of the prebendaries is then summoned by the dean, and they are constrained under the penalty of a *præmunire* to elect the person nominated. The solemnity is completed by the royal assent under the great seal, and by the confirmation and consecration performed by the metropolitan or in his name. The prelate afterwards pays homage to the king for his temporalities, or the baronies connected with the see; and compounds for the first fruits, that is, the revenue of the first year, which is paid to the corporation for increasing the benefices of the poor clergy. The omission of consecration is the only difference when a bishop is translated to another see; and when an archbishop is nominated, the king appoints four or more bishops to officiate at the confirmation.

The bishop alone may ordain deacons and priests, dedicate churches and burial grounds, and administer confirmation. In former times episcopal jurisdiction extended to the licensing of physicians, surgeons\*, and schoolmasters, and to the conjunction of small parishes. At present it chiefly embraces questions of births, marriages, deaths, and testaments, and any delinquencies of the clergy; to which body indeed their attention is now chiefly confined, and they rarely, except in parliament, interfere in secular subjects. The bishop of Sodor and Man has no place in parliament. All the other bishops are barons and peers of the realm by three different claims; in right to the baronies attached to their sees, as barons summoned by writ, and as barons by patent, a form which accompanies their consecration. Their privileges approach the regal; they are sole judges in their own courts, and issue writs in their own names, not in the royal style used by other courts. They can depute their authority, which no other judge can; and their episcopal power of conferring orders, &c. may be exerted in any Christian country, while lay peers are only acknowledged in the country whence they derive their dignities. To pass other more minute privileges, the bishop of London, as presiding over the capital, has the precedence of all the others, and the colonies are regarded as in his diocese. The see of Durham constitutes a country palatine, with great powers and prerogatives: the authority and patronage of the bishop are of course very extensive, and even the king's judges sit in his diocese only by his permission. The bishop of Winchester is the third in dignity, but esteemed the first in opulence, as the large civil list of Durham, while it adds power, diminishes revenue. These three bishops precede all the rest, who take place according to the seniority of consecration.

To every cathedral in England belong several prebendaries as canons, and a dean, so styled, as is said (*Decanus*) because he anciently presided over ten canons. In the old quaint language he was called one of the bishop's eyes, while the archdeacon who had charge of the deacons was reputed the other. The dean and chapter of prebendaries assist the bishop in ecclesiastic affairs. The prebendaries are so styled from the prebend or *pars præbenda*, a portion of land or income allotted to them; and, with

\* Even now any person obtaining a licence from the court of the bishop of his diocese may practise, and the archbishop of Canterbury may confer a diploma of M. D.

the dean, form a body, college, or corporation ; and they have several privileges superior to the common or minor canons. At the reformation their salaries were mostly converted into money, but those of Durham preferred the ancient portions of land ; which having prodigiously increased in value, they are now styled golden prebends, being worth from 800*l.* to 1200*l.* a year, while the bishop out of 9000*l.* a year has to support a great and unavoidable expenditure.

The next order is that of the arch-deacons, amounting in all to about sixty ; their office is to inspect the moveables of the churches, to reform slight abuses, and to induct into benefices. Arch-priests, who on the Continent share the labours of the arch-deacon on a smaller scale, being superintendants over a few parishes, were in England also styled rural deans, a class still common in some parts of England, where they nearly supersede the arch-deacon in the duties of his office. Subdivisions of government are so much controuled by the very nature of human affairs, that the power of the arch-priest almost corresponded with the Scottish presbytery, while the provincial synods are similar to bishoprics.

Of the clergy in general, the lowest order is that of deacons, whose office formerly was to superintend the poor ; the ancient donations to the church being always assigned in three divisions, one to the poor, another for repairs, and the last for the clergy. At present the deacon's office is restricted to baptism, to reading in the church, and assisting the priest at the communion by handing the cup only. Deacon's orders cannot be canonically received before the age of twenty-three years, those of a priest require twenty-four, and a bishop must be thirty. The curate is a clergyman appointed to officiate for another, and is so named from his having the care of souls ; hence the French rather apply the term to the rector. If the predial or great tythes of the parish be impropriated, or converted into secular hands, the priest is termed a vicar, a name originally implying that they were the *vicarii*, or deputies of the rector ; but if the tythes be entire, the priest is styled rector. The churchwardens superintend the repairs and decorations of the church, and the requisites for divine service, and collect the alms of the parishioners ; they are annually elected at Easter, and have sometimes sidersmen, a kind of assistants. The sacrifician, corruptly called sexton, originally had the care of the furniture and plate of the church ; and by a still greater corruption the appellation is now applied to the grave-digger, when it ought to have been conferred on the parish-clerk.

The clergy in general enjoy some peculiar privileges. Their goods are free from tolls in fairs or markets : they cannot be compelled to any office civil or military : they are only amerced according to their temporal estate : nor are they assailed for a robbery committed in the hundred, or for watching, warding, highways, &c. &c.

Ecclesiastical courts still retain considerable power : the convocation, consisting of the archbishops and bishops, with a lower house of 150 members, only meets for the sake of form ; but have not been allowed to deliberate since the reign of Anne.

Next in dignity is the court of delegates, acting by a special commission under the great seal ; and to whom an appeal lies from the highest metropolitan court. The court of arches is so styled because it was held in the arches of the church St. Mary-le-bowe, London, but now in the great hall, Doctors Commons ; only doctors of the civil laws are allowed to plead. The court of audience is always presided by the archbishop himself, who decides any doubts concerning the admission to benefices and dispensation of the bans of matrimony.

The next court is that of prerogative, which judges of estates fallen by will, or intestate; the prerogative office is likewise in Doctors Commons. The court of peculiars refers to several peculiar parishes exempt from the jurisdiction of the bishops, but here amenable: the judges are sole and without jury.

The ecclesiastical geography of England may be seen in the following table:

*Province of Canterbury.*

The Archbishop, Canterbury and part of Kent.

1. Bishoprick of London, containing Essex, Middlesex, and part of Hertford.
2. Winchester.—Surry, Hampshire, Isles of Wight, Jersey, Guernsey, and Alderney.
3. Litchfield and Coventry.—Stafford, Derby, and part of Warwick and Shropshire.
4. Lincoln.—Lincoln, Leicester, Huntingdon, Bedford, Buckingham, and part of Hertford.
5. Ely.—Cambridgeshire.
6. Salisbury.—Wilts and Berkshire.
7. Exeter.—Cornwall and Devon.
8. Bath and Wells.—Somersetshire.
9. Chichester.—Suffex.
10. Norwich.—Norfolk, Suffolk, and a small part of Cambridge.
11. Worcester.—Worcester, and part of Warwick.
12. Hereford.—Hereford and part of Shropshire.
13. Rochester.—Part of Kent.
14. Oxford.—Oxfordshire.
15. Peterborough.—Northampton and Rutland.
16. Gloucester.—Gloucestershire.
17. Bristol.—The city of Bristol, part of Gloucestershire, and county of Dorset.
18. Llandaff.—Glamorgan, Monmouth, Brecknock, and Radnor.
19. St. David's.—Pembroke, Cardigan, and Caermarthen.
20. St. Asaph.—The greatest part of Flint, Denbigh, and Montgomery, and some part of Shropshire.
21. Bangor.—The counties of Anglesey, Caernarvon, Merioneth, and part of Denbigh and Montgomery.

*Province of York.*

The Archbishop, the Counties of York and Nottingham.

22. Durham.—Durham and Northumberland.
23. Carlisle.—Great part of Cumberland and Westmoreland.
24. Chester.—Cheshire, Lancashire, Richmondshire (which is part of York); with part of Cumberland and Westmoreland.
25. Isle of Man.

The valuations in the king's books are omitted, because even the comparative valuation would lead to ideas wholly erroneous. Several changes have taken place in the number and situations of the bishopricks since Christianity was first established in this country, but these rather belong to the province of the antiquary.

Those who differ in tenets or forms from the established church may, in general, be styled Dissenters, though the term be more strictly applied to the Presbyterians and Independents. The other principal classes of the dissenters are the Papists, Methodists, Quakers, the Baptists, the Swedenborgians, and the Unitarians; the last class denying the Trinity.

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and believing only in one God, is now intermingled with the two first, who have considerably relaxed the strictness of their discipline. The Independents assert, that each congregation has a right to regulate itself, while the Presbyterians unite churches under various divisions, provincial and national. The clerical aristocracy of the Presbyterians was obtruded with great haughtiness upon the English nation during the civil war in the last century, and was rendered the more odious, because it admitted no toleration: hence the English found that they had only exchanged one yoke for another, or rather for slavery, as ten presbyters amounted to one bishop, and superadded the petulance and moroseness of individual inquisitors. Milton and other friends of freedom soon began to satirize the whole sect, and to fly for refuge to the independents, whose benevolence or address granted universal toleration. To this body Cromwell lent an iron hand; and after annihilating the Presbyterian power in England, in a great measure subverted that of Scotland. The intolerant spirit of the Presbyterians originated with their apostle Calvin, whose cruelty to Servetus was balanced by surprising talents in clerical polity: it rendered their power singularly adverse to letters and taste; and no man of science who had studied the literary history of this country would wish for the revival of such domination. But at present Calvin would not recognise his disciples, as they have abandoned their polemical thistles, and cultivate the most elegant productions of the literary field. The papists used chiefly to abound in Lancashire, Staffordshire, and Sussex; they had potent chiefs, and were a formidable body; but the passage from superstition to contempt is so natural, that many have fled to the opposite extreme. Those who retain their faith generally display moderation, which has been naturally increased by the late privileges extended to them.

The methodists are extremely numerous and respectable. They seem to allow the propriety of the creed and government of the church of England; but they require a more strict life, more fervent devotion, and more frequent and serious attendance upon divine worship than is enforced by the establishment. A philosopher may well envy the mild creed and universal charity, or fraternal love of the quakers; while we must allow with a sigh that a nation of quakers could not exist, except all nations were of the same persuasion. The Baptists disown infant baptism, and bathe the adult disciple. The learned Whiston admired their tenets and their practice of anointing the sick with oil, which, as he believed, operated with miraculous power. The Swedenborgians derive their name from the Baron Swedenborg, a nobleman who exchanged his native country of Sweden for a residence in England. After having published two folio volumes in the Latin language upon the art of exploring mines, he was seized with a violent fever, and with great difficulty recovered. In his disordered imagination he seemed to maintain a frequent intercourse with the spiritual world; and he has published twenty or more vast volumes in quarto, also in the Latin tongue, replete with curious metaphysical ratiocination, interspersed with visions, which are sometimes narrated with high poetical spirit and elegance. His system is so much adapted to the strongest propensities of human nature, that his disciples increased with great rapidity. His chief tenets are, that there is but one person of the Deity, namely, the Lord Jesus Christ; that the day of judgment is already passed, &c. &c.; but his most alluring tenets partake of Mahometanism, in representing the connubial pleasures and the other enjoyments of a future world, which he paints as



similar to this state of existence, but far exceeding it in the gratifications of every sense whether mental or corporal.

For the following observations on this important subject the author is indebted to a well-informed friend.

" Although the denominations *Presbyterian* and *Independent* are still applied to two large bodies of dissenters, yet it may be questioned whether either of these parties coincides exactly in principles and discipline with its predecessors. With regard to the first, it is certain that in both respects they have deviated widely from their ancestors. With the exception of one only in the most northern part of England, there is at this time *no English Presbytery*; the English Dissenters, who still go by the name of Presbyterians, have assumed the congregational independence of the other sect, and each society is now governed, by different methods indeed, by its own members exclusively, without being in the least subjected to the domination or interference of any other, or of any synod of ministers. The congregations still denominated Presbyterian, have also changed their religious creed. None of them now are Calvinistic, and they differ widely from each other; some being Arminian, others Arian, others Unitarian, but most of them composed of a mixture of these; strict uniformity of opinion being seldom found in large societies.

" The Independents have adhered more closely to the discipline of their ancestors, though among them shades of difference appear in their internal management. They are now universally Calvinists, though some hold the doctrines of the reformer less strictly than others.

" The Baptists, who form the next great class of English dissenters, are divided into two bodies, which are denominated Particular and General Baptists. The former are Calvinists, and differ from the Independents only on the subject of baptism. The General Baptists derive their name from being advocates of general redemption—that is, being Arminians. Many of them are now Sabellians, Arians, and Unitarians; but still all of them oppose the baptism of infants.

" The appellation *Ana-baptist* is not admitted by this respectable body as just or appropriate. It was originally applied to them by way of reproach as *re-baptizers* of those whom they received into their communion by immersion. As however they did not consider *infants sprinkling* to be a Christian ordinance, or the baptism which Christianity required, they regarded their own baptism as the only one which the party had really received. In their opinion, therefore, he was not *ana-baptized*. The term Anabaptist, as it ought, is now discarded, and that of Baptist properly substituted in its stead.

" It is to be observed, that what is called the 'General body of Dissenters in London' consists of these three classes only: that is, the Presbyterians, Independents, and Baptists, including the General and Particular Baptists. They hold a friendly conference once a year at the great room in Dr. Williams's library, Red-Cross-street, which is lent to them for the purpose by the trustees. It is at these annual conferences, or at special meetings of the same denominations convened for the purpose, that all public measures relating to the dissenters, such as addresses to the throne, &c. originate, or are carried on. Upon occasions of importance, however, they advise with their brethren in other parts. The congregations of these denominations have besides a body of deputies, two from each, who are deputed as a standing

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" committee to watch over their civil rights, with power to resort to legal prosecutions in defence of any privilege which may be encroached upon by ignorant or bigoted persons.

" The *Methodists* are divided into two classes, the followers of Whitefield, who are Calvinists of the strictest kind, and of Wesley, who are Arminians. Both classes, although they had separate chapels for worship, which they conducted on the plan of the generality of dissenters, without a set form or liturgy, retained their allegiance to the Church of England, by remaining in communion with it, and refraining from administering the Lord's supper in their chapels. I believe the Whitefieldian Methodists still preserve this rule. A short time since a grand schism took place among the Wesleyans on the subject. The seceding party, consisting of about one half, more or less, of the body, separated on the ground of a total nonconformity with the established church, and have introduced the practice of administering the ordinance of the Lord's Supper in their own places of worship, as done by the other dissenters. They still retain generally, however, the discipline of Wesley in their internal government.

" The Unitarians until lately were only found scattered as individuals in other congregations. Of late, however, their number has considerably increased, and there are, at this time a considerable number of congregations avowedly Unitarian in different parts of the country, and several in the metropolis and its neighbourhood."

GOVERNMENT.] It is difficult to give a brief idea of the English constitution, which presents an infinite number of practical ramifications, and is intimately connected with the spirit and manners of the people. A mere outline must here suffice. It is a limited monarchy, counterpoised by two senates, one of hereditary peers, the other of representatives, who are or ought to be chosen by the people. The stability and real power of these senates depend on a general concurrence with the popular voice, arising partly from the mode of election, and partly from the sympathetic gradation of ranks.

Our lawyers pronounce that the king of England unites in his person the dignity of chief magistrate with the sanctity of a priest; and the title of Sacred Majesty appears to have commenced when he assumed the sanction of Head of the Church. So august is his person that even to imagine or intend his death is a capital offence, when in all other cases the deed alone is punishable. Fortescue in his old emphatic language has described the office of the king of England to be "to fight the battles of his people, and to judge them with most righteous judgment." At his coronation he solemnly swears to govern his people according to parliamentary statutes, and the law of the country; to maintain the Protestant religion; and to preserve the legal rights and privileges of the bishops, clergy, and church.

The acknowledged prerogatives of the monarch are chiefly to declare war and to make peace, a power upon which the whole of public prosperity may be said to depend; to form alliances and treaties; to grant commission for levying men and arms, and even for pressing mariners. To the king also belong all magazines, ammunition, castles, forts, ports, havens, and ships of war; he has also the special management of the coinage, and determines the alloy, weight, and value. The prerogative likewise extends to the assembling, adjournment, prorogation, and dissolution of parliament, and to its removal to any place. The royal assent is necessary to give validity to an act of parliament. The sovereign also enjoys the nomination of all officers on sea or land; of all magistrates,

gistrates, counsellors, and officers of state; of all bishops and other great ecclesiastical dignitaries; and is not only the fountain of honour but of justice, as he may pardon any offence, or mitigate the penalty. As head of the church he may call a national or provincial synod, and with its consent enact canons either relating to faith or practice. The other prerogatives are more minute and more adapted to jurisprudential enumeration. The more important exceptions are, that he cannot enact new laws or impose new taxes without the consent of both houses of parliament.

This grand national council claims the next consideration. Originally both the nobles and the commons met in one house, and it is not impossible that the mere inconvenience of not finding halls large enough for our then ambulatory parliaments might have occasioned the division into two houses, unknown in any other country, and which in fact may be regarded as the sole foundation of English liberty. The house of peers may be said to have existed from the earliest period of our history, but concerning the origin of the commons there is a dispute between the Tory and the Whig writers. The present constitution of the parliament of England may however be traced with certainty to near the middle of the thirteenth century; but it remains unknown at what precise time happened the important separation of the commons from the peers. The peers are hereditary senators in their several degrees of duke, marquis, earl, viscount, and baron. The duke is so styled from the Latin *dux*, a leader or general; the title of marquis springs from the Gothic language, and implies the commander of a march or frontier: the earl and baron are also from the Gothic, and merely imply eminent men: the viscount is Latin, and signifies the lieutenant of the count or earl. The various orders of nobility have been preserved more pure in England than in any other country; owing partly to the laws of primogeniture, partly to their senatorial office, partly to the institution of the college of heralds. In Germany and some other countries the nobility has fallen into comparative degradation, from the extension of the title to all the sons, and from the presumption of adventurers. The privileges of the peers are moderate and unobtrusive, there being no exemption from taxes, &c. as in some countries.

The house of commons consists of knights, citizens, and burgesses, chosen by counties, cities, and boroughs, in consequence of royal writs directed to the sheriff. The members have certain privileges, as exemption from arrest in civil causes, on their journey to parliament, during their attendance and on their return; nor can they be questioned out of the house for any sentiment there uttered. The commons form the grand inquest of the realm, and may impeach or accuse the greatest peers; but their chief privilege, and upon which their whole power depends, is the levying of money, in which they are deservedly so jealous, that they will not permit the smallest alteration in a money bill. Since the union with Ireland the house of commons consists of six hundred and fifty-eight members; but by sickness, important offices, and indispensable avocations, there rarely appear above two thirds of the number. A speaker or president is chosen at the meeting of every new parliament, but is usually continued from one to another as the office requires a complete and ready knowledge of the forms, and considerable abilities.

Acts of parliament are first presented in the form of *bills*, and, after having gone through various and exact forms generally observed with great minuteness, become law on receiving the sanction of the crown.

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The attention of the nation is chiefly bent upon the parliament, when grand political questions arise concerning war and peace, or affecting the constitutional liberties of the land. On such occasions the utmost powers of eloquence are exerted; and specimens produced worthy of Greece or Rome. Such trials of elocution may either arise in the stages of a bill as before described, or by the special motion of a member for some particular object, or address to the throne.

Adjournments may frequently happen in one session, and the business is continued and resumed; but a prorogation terminates the session, and the bills not then passed must recommence their whole progress. By a modern statute the death of the king does not, as formerly, terminate the parliament; which, on the contrary, had it been previously dissolved, may, on that event, resume its functions.

Such are the three grand component parts of the English constitution; but perhaps its most beneficial and popular effects arise from the mode of administering justice, and other ramifications. For the sake of connection, however, it is proper first to consider the privy council and the other divisions of the government.

The privy council formerly possessed great power, but at present is chiefly employed in deliberations on affairs of sudden emergence, on peace and war, and special provinces of the royal prerogative. The members are chosen by the king, and on changes of administration are seldom erased, though those in opposition never attend. They are styled right honourable, and are sworn to observe secrecy: the lowest at the board pronounces his opinion first, and the king, if present, concludes with declaring his judgment.

Even at an early period, when the monarch maintained in his own hands a great share of the administration of justice, and of the actual exercise of authority, there were intervals of absence or recreation in which he delegated the chief management of business to some select person usually an ecclesiastic, whose cultivated talents qualified him for such an important trust. To lend more weight to this substitute, he was commonly appointed chancellor or chief administrator of civil justice, was president of the house of peers, and supported the royal influence in that great assembly. But in later times when the management of the house of commons became the chief object of the crown, the chancellor of the court of Exchequer, as superintendent of the public revenue, is the officer generally considered as prime minister. The distribution of fifty millions a year, joined with the royal support, has recently carried his power to the highest elevation. Next to him in authority are the secretaries of state, who are followed by the chancellor, the treasurer of the navy, the president of the council, the paymaster of the forces, the commissioners of the treasury, and other persons of high trust.

JUDICATURE AND LAWS.] The judicature of England is worthy of the highest applause with regard to precision and purity; and bribes, so frequent in other countries, being totally unknown, the saving of this expence must be candidly poised against other legal disbursements. The trial by jury is another glorious feature of English jurisprudence, handed down from the Saxon times, and is justly respected as the very safeguard of the lives, liberties, and properties of the nation. It would be idle and extraneous here to attempt even a brief sketch of the laws of England. The most singular usages are what is termed *Borough English*, by which the youngest son, or, in defect of issue, the youngest brother was to enjoy the heritage, as it was to be presumed that his elder brethren had learned their father's business, and that of gavel kind, scarcely known except in Kent.

Kent. In no country are wills so much venerated by law; that of Mr. Thellusson furnishes a recent example.

The forest laws relate chiefly to offences committed in or near the precincts of the royal forests, and were formerly regarded as a considerable portion of the national code. But a more vigorous branch of English judicature must not be forgotten; martial law, or the *Lex Castrensis Anglicana*, may be clearly traced to the reign of Henry V. who issued a code of military statutes published by Upton and Grofe. The statutes chiefly relate to sacrilege, prisoners, robbery of merchants, &c. &c. and refer solely to the actual exercise of war; the pain of death rarely occurs except in the case of any person who cries *havoc*, an expression seemingly equivalent to "no quarter." Martial law may be proclaimed by the king, regent, or lieutenant-general of the kingdom; and even in time of peace, though the prerogative be rarely employed except during war. It is in fact a dictatorial power never exerted except on great emergencies. The trials are summary and severe as the necessity of the case authorises.

Among the courts of law the next in dignity to the House of Lords is the Court of King's Bench, so called because the sovereign was understood to judge in person; and its jurisdiction of course extends to the whole kingdom, the presiding judge being denominated Lord Chief Justice of England. The Court of Chancery judges causes in equity to moderate the rigour of the law, and defend the helpless from oppression, and especially to extend relief in three cases, accident, fraud, and breach of trust. The Court of Common Pleas determines, as the name imports, the common suits between subject and subject, and tries all civil causes, real, personal, or mingled, according to the precise precepts of the law. The Court of Exchequer, so termed from the ancient mode of accounting upon a chequered board, decides all causes relating to the royal treasury or revenue. There is also a court for the duchy of Lancaster, having cognizance of the revenues of that duchy annexed to the crown by Henry IV.

The judges perform their circuits in the spring and autumn, and in the mean while more minute cases are determined by the justices of the peace, who may be traced to the fourth year of Edward III. Every three months the justices of the county meet at what is called the quarter sessions, and the grand inquest or jury of the county is here summoned, which inquires concerning crimes, and orders the guilty to jail till the next circuit or assizes. The office of the sheriff is to execute the royal mandates, to impanel juries, to bring persons for trial, and to see the sentences executed; to collect fines and remit them to the exchequer, and to preserve the tranquillity of the shire.

There was formerly a bailiff in every hundred, but the office is now rare. The constables personally assist in the preservation of the peace, and execute the warrants of the justices. The coroner inquires by a jury of neighbours into cases of violent death. The clerk of the market superintends the weights and measures; and it were to be wished for the benefit of the poor that the office were multiplied and strictly enforced.

Such are the chief magistrates and offices in the country. Cities and towns are generally ruled by a mayor and aldermen, or by similar magistrates under different appellations, whose juridical power little exceeds that of justices of the peace.

To enumerate the various punishments inflicted by the laws of England would be an unnecessary task. It has been justly observed that they are too sanguinary, and that their frequency diminishes the intended purpose

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pose of impressing terror. If death were only inflicted in cases of murder, the relaxation would be found beneficial to the community. As man is an animal reared with considerable difficulty, and may generally be rendered useful, it would certainly be preferable to send criminals for life to the new and distant settlements in Australasia, than by the waste of blood to lessen strength and population.

POPULATION.] The population of England and Wales by the late enumeration amounts to nine millions three hundred and forty-three thousand five hundred and seventy-eight. That of Ireland is generally computed at three millions, while that of Scotland has been lately found to equal one million six hundred and seven thousand seven hundred and sixty. The various colonies in America, &c. will not perhaps be found to amount to one million; but the American states boast a British progeny of six millions, and the English language is probably diffused to the extent of twenty millions of people.

ARMY.] The army during the late war was supposed to exceed 170,000, with 30,000 fencibles, and 78,000 militia, the volunteers being supposed to be 60,000.

NAVY.] But the great rampart and supreme glory of Great Britain consist in her navy, in size, strength, and number of ships, far exceeding any example on record, as may be judged from the following catalogue.

## NAVY LIST, May 1810.

*Statement of the distribution of the British Naval Force, exclusive of the hired armed Vessels, which are chiefly employed in protecting the Coasting Trade of Great Britain.*

| Stations.                             | Line.      | 50-44.    | Frigates.  | Ships and Yachts. | Bombs, Fire Ships. | Brigs.     | Cutters.  | Sch. G. V. Laug. &c. | Total.      |
|---------------------------------------|------------|-----------|------------|-------------------|--------------------|------------|-----------|----------------------|-------------|
| Downs - - - - -                       | 17         | 0         | 0          | 11                | 0                  | 14         | 4         | 4                    | 50          |
| North Sea and Baltic - - -            | 10         | 1         | 0          | 11                | 0                  | 20         | 5         | 9                    | 62          |
| English Channel and Coast of France   | 9          | 2         | 12         | 9                 | 0                  | 16         | 7         | 8                    | 64          |
| Irish Station - - - - -               | 0          | 0         | 9          | 6                 | 0                  | 1          | 1         | 11                   | 28          |
| Jersey, Guernsey, &c. - - -           | 0          | 0         | 3          | 1                 | 0                  | 7          | 2         | 3                    | 16          |
| Spain, Portugal, and Gibraltar        | 19         | 3         | 13         | 7                 | 3                  | 9          | 1         | 2                    | 58          |
| Mediterranean, and on Passage         | 22         | 0         | 23         | 14                | 2                  | 16         | 0         | 2                    | 79          |
| Coast of Africa - - - - -             | 0          | 0         | 1          | 1                 | 0                  | 1          | 0         | 0                    | 3           |
| Halifax, Newfoundland, &c.            | 1          | 1         | 9          | 9                 | 1                  | 6          | 0         | 11                   | 38          |
| West Indies } Leeward Islands         | 3          | 1         | 11         | 14                | 0                  | 22         | 3         | 13                   | 67          |
| West Indies } Jamaica, and on Passage | 3          | 0         | 9          | 14                | 0                  | 15         | 0         | 5                    | 46          |
| South America - - - - -               | 1          | 1         | 4          | 2                 | 0                  | 0          | 0         | 1                    | 15          |
| Cape of Good Hope, and Southward      | 2          | 3         | 4          | 5                 | 0                  | 0          | 0         | 1                    | 15          |
| East Indies, and on Passage           | 4          | 2         | 20         | 5                 | 0                  | 6          | 1         | 0                    | 38          |
| <b>Total at Sea - - - - -</b>         | <b>91</b>  | <b>14</b> | <b>124</b> | <b>109</b>        | <b>6</b>           | <b>139</b> | <b>24</b> | <b>70</b>            | <b>576</b>  |
| In Port and fitting - - -             | 23         | 4         | 38         | 35                | 5                  | 56         | 7         | 25                   | 193         |
| Guard Ships - - - - -                 | 4          | 2         | 4          | 5                 | 1                  | 0          | 1         | 1                    | 18          |
| Hospital Ships, Prison Ships, &c.     | 33         | 5         | 5          | 2                 | 0                  | 0          | 0         | 1                    | 46          |
| <b>Total in Commission -</b>          | <b>151</b> | <b>25</b> | <b>169</b> | <b>151</b>        | <b>12</b>          | <b>195</b> | <b>32</b> | <b>97</b>            | <b>833</b>  |
| Ordinary and repairing for Service    | 63         | 14        | 70         | 34                | 4                  | 24         | 1         | 6                    | 216         |
| Building - - - - -                    | 42         | 0         | 18         | 4                 | 0                  | 0          | 0         | 0                    | 64          |
| <b>Total -</b>                        | <b>256</b> | <b>39</b> | <b>257</b> | <b>189</b>        | <b>16</b>          | <b>219</b> | <b>33</b> | <b>103</b>           | <b>1113</b> |



For this immense fleet the number of seamen amounts from one hundred to one hundred and twenty thousand, a number which no other country ancient or modern could have supplied.

The naval power of Great Britain constitutes so striking and important a feature in the national portrait, that it merits particular illustration. Even in the Saxon times we find considerable fleets mentioned of the small vessels then in use. One of the Northumbrian monarchs assembled a numerous fleet near Jarro, the monastery of Beda, in an extensive haven of the time, now become a salt marsh. About the year 882 we find that Alfred directed a powerful fleet against the Danish invaders. The fleet of Edgar is also celebrated, but the armament of Ethelred the second in the year 1009 exceeded any which England ever before had beheld, probably amounting to five hundred of the small ships then known. But the devastations of the Danes and Normans occasioned such a decline in the naval power of England, that Richard I. was obliged to have recourse to foreign vessels for his crusade. In the reign of John we, for the first time, find commemorated a signal victory of the English and Flemings over the French fleet of Philip Augustus, which was computed at 1700 ships, or rather boats. The English monarch in the pride of his triumph was the first who ordered the SALUTE to be paid by foreign vessels to the national flag. The fleet of England thenceforth continued to be always respectable, and generally victorious; but the preponderance of the English armaments over those of France only became permanent and decisive a little more than a century ago, after the battle of La Hogue. Spain had yielded the contest since the destruction of her great Armada, and Holland had been greatly reduced in her naval conflicts under Charles the Second; so that no other rival remained, and Great Britain maintains a fixed superiority over the ocean.

The special superintendence of the navy is committed to the Board of Admiralty, composed of admirals of known skill, and of peers whose impartiality generally regards merit alone in this important service. The recent conduct of maritime war has been crowned with distinguished success; and whilst the admirals must be allowed to rival any names in naval history ancient or modern, the fame of Nelson has been consecrated by his glorious death.

REVENUE.] In ancient times the royal revenue chiefly arose from the domains, or lands appropriated to the crown, from amerciaments civil and criminal which passed to the fisc or treasury, and from customs on goods imported and exported. As in war each soldier was obliged to maintain himself for a certain time, the expenditure was not much increased. Upon extraordinary emergencies, it appears that a contribution was raised by the consent of the national council. In later periods subsidies were granted to the amount of a fifteenth or a tenth of landed income, and a proportionable rate on moveable goods. As society advanced, taxes began to be imposed on the materials themselves; and from a small plant an enormous tree has risen, with a labyrinth of roots, which in the opinion of some politicians undermine the island, while others believe that they only produce a more firm consolidation.

The excise forms one of the most productive branches of the revenue, amounting to between seven and eight millions. Next stand the customs, which produce about half that sum. The stamps and incidental taxes, as they are termed, arise to near three millions. The land-tax has recently been rendered perpetual, and sold to proprietors of estates and other individuals. But instead of the land-tax, now appear those on

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sugar, tobacco, and malt, amounting to two millions seven hundred and fifty thousand pounds; the other supplies arise from the East India Company, lotteries, &c. In addition to these the income-tax is supposed to yield 7,500,000*l*. In the year 1799 it was supposed that the additional sums raised by loans, and other methods, swelled the national expenditure to near sixty millions sterling.

Of the permanent taxes the greater part is employed in discharging the interest of the national debt, which after the American war amounted to more than 239 millions, while the interest exceeded 9,000,000. At present the national debt is about 480,000,000, and the interest about 19,000,000.

To alleviate this growing burthen, a sinking fund was instituted in 1786, by which between 20 and 30 millions may be considered as already redeemed. The national debt began in the reign of William, and grew into what are called the funds or stocks, only synonymous terms for the public debt.

The civil list; from which are defrayed the salaries of officers of state, Judges, ambassadors, &c. together with the expences of the royal family, amounts to 1,000,000 annually.

**POLITICAL IMPORTANCE AND RELATIONS.]** With such a prodigious command of national treasure, the political importance and relations of Great Britain may be said to be diffused over the world; for wherever money influences man, there may her power be perceived. The union of Scotland with England delivered the latter country from the perpetual check, exercised by politicians ancient and modern, of exciting an enemy from behind, and thereby dividing the power of an antagonist. That with Ireland, if preserved by wise and lenient measures, must also impart additional energy. The most important political considerations are those between Great Britain and France. If this country must not be styled the natural enemy of Great Britain, she has yet for many centuries been a constant and jealous rival, eagerly embracing every opportunity to lessen British prosperity and power. Such being the case, it has been regarded as the political interest of England to balance and divide the enmity of France by a strict alliance with some limitaneous state. None of the German states bordering on France, nor even Switzerland itself, are capable of much exertion. Hence it might seem that sound policy would dictate as complete a consolidation of German power as could be effected, in order to give a decided and vigorous check to that of France from behind. Holland presents a connection of superlative importance to England, being her grand mart of trade from the continent. The amity of Russia is valuable in a commercial view, as she might by no great stretch of oriental power detach an army into Hindostan, and overturn our opulent possessions.

The connection of Portugal has been enforced by mutual advantages of commercial intercourse, and by the family compact between France and Spain. The friendship or enmity of Denmark and Sweden is little momentous; but as this latter country has long maintained a strict connection with France, it is most natural that Britain should balance it by cultivating that of Denmark.

## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs—Language—Literature—the Arts—Education—Universities—Cities and Towns—Edifices—Roads—Inland Navigation—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE singularity of manners in England has often excited the surprise of foreigners, and the attention of our own ethic writers, who have attempted to deduce the sources from moral and physical causes : estimating as the first, the freedom diffused over the country, which permits the indulgence of individual inclinations ; and recurring for the latter, to the perpetual variations of the climate.

The consideration of national manners may be conveniently referred to three divisions ; first, diet ; secondly, houses and dress ; thirdly, amusements.

The English are generally esteemed to exceed in the use of animal food ; but since the introduction of potatoes and other esculent vegetables, this position may be doubted. Our potations of heavy malt liquor deservedly strike foreigners as a singularity in English diet. Even our lightest liquors of that sort have not escaped their remark ; for a late French traveller has observed, that the English commonly drink at their meals a sort of medical ptisan, which they call small beer. Our ancestors prided themselves in the variety and richness of their ales ; nor even at present do we refuse praise to the various qualities of our Burton, Dorchester, Taunton, Windsor, Scottish, Welsh and other ales. But the most peculiar malt beverage is porter, which ought to be solely composed of brown or high dried malt, hops, liquorice, and sugar ; but it is sometimes debased by other ingredients : that of London is particularly famous, and is an article of exportation, being esteemed a luxury on the banks of the Delaware and the Ganges. The prodigious consumption of tea is another peculiar feature, the use of that plant being rare in other European countries. The baneful effects of excess in spirituous liquors may be traced in the ruined health and morals of the people.

The simplicity of the English cookery strikes foreigners as much as that of the dress, which even among the great is very plain, except on the days of court gala.

The houses in England are peculiarly commodious, neat, and cleanly ; and domestic architecture seems here arrived at its greatest perfection.

The amusements of the theatre and of the field, and various games of skill or chance, are common to most nations. The baiting of bulls and bears is, it is believed, nearly discontinued : one of the most peculiar amusements of the common people is the ringing of long peals, with many changes, which deafen those who are so unhappy as to live in the neighbourhood of the church.

Prior to the middle of the sixteenth century, the English and French were regarded as barbarous nations by the more polished Italians. The reign and female blandishments of the court of Elizabeth seem to have had a wonderful effect in civilizing the manners. The transition has been well pourtrayed by an ancient writer, whose simple language, given in modern orthography, may perhaps amuse the reader.

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" There are old men yet dwelling in the village where I remain, who have noted three things that are marvellously altered in England within their sound remembrance. One is the multitude of chimnies lately erected: whereas in their young days there were not above two or three, if so many, in many uplandish towns of the realm (the religious houses, and manor places of their lords, always excepted, and peradventure some great personages), but each one made his fire against a *rere doffe* in the hall, where he dined and dressed his meat. The second is the great amendment of lodging; for, said they, our fathers, and we ourselves, have laid full oft upon straw pallets, covered only with a sheet, under coverlets made of *dagswain* or *hopharlots* (I use their own terms) and a good round log under their heads instead of a bolster. If it were so that our fathers, or the good man of the house, had a mattress or flock bed, and thereto a sack of chaff to rest his head upon, he thought himself to be as well lodged as the lord of the town, so well were they contented. Pillows, said they, were thought meet only for women in childbed. As for servants, if they had any sheet above them, it was well, for seldom had they any under their bodies, to keep them from the pricking straws that ran through the canvas, and razed their hardened hides.

" The third thing they tell us of, is the exchange of wooden platters into pewter, and wooden spoons into silver or tin. For so common were all sorts of wooden vessels, in old time, that a man should hardly find four pieces of pewter (of which one was peradventure a salt-feller) in a good farmer's house; and yet, for all this frugality, if it may be so justly called, they were scarce able to live and pay their rents at their days, without selling of a cow, or a horse, or a mare, although they paid but four pounds at the uttermost by the year. Such was also their poverty, that if a farmer, or husbandman, had been at the alehouse, a thing greatly used in those days, amongst six or seven of his neighbours, and there, in a bravery, to shew what store he had, did cast down his purse, and therein a noble, or six shillings in silver, unto them, it is very likely that all the rest would not lay down so much against it; whereas, in my time, although peradventure four pounds of old rent be improved to forty or fifty pounds, yet will the farmer think his gains very small, towards the mid of his term, if he have not six or seven years rent lying by him, therewith to purchase a new lease; besides a fair garnish of pewter on his cupboard, three or four feather beds, as many coverlids, and carpets of tapestry, a silver salt-feller, a bowl for wine, if not a whole nest, and a dozen of spoons to furnish up the suit. This also he taketh to be his own clear; for what stock of money soever he gathereth in all his years, it is often seen that the landlord will take such order with him for the same, when he reneweth the lease (which is commonly eight or ten years before it be expired, since it is now grown almost a custom, that if he come not to his lord so long before, another shall step in for a reversion, and so defeat him outright), that it shall never trouble him more than the hair of his beard, when the barber hath washed and shaven it from his chin \*."

Under this division of geography have been generally arranged what are called national characters, but which, in fact, are commonly monuments of prejudice and injustice, and particularly noxious to the minds of youth. It shall therefore only be remarked, that the cold restraint which

\* Description of Britain, in Holinshed's Chronicle, vol. 1. fol. 85.

some foreigners have ascribed to the English, has been candidly judged, by a recent traveller, to exist only in appearance. A more genuine attribute of the English is integrity, which has carried their credit and commerce to an extent before unknown in the history of nations.

LANGUAGE.] Most European languages are derived from the Gothic or the Latin. To the Latin origin belong Italian, French, and Spanish; to the Gothic, the German, Dutch, Flemish, Danish, Swedish, and Norwegian. From the situation of the country, and other causes, the English participates of both those grand sources; and unites, in some degree, the force of the Gothic with the melody of the Latin dialects. The ancient ground, and native expression, originate from the Gothic divisions of the Belgic, Saxon, and Danish; but particularly from the Belgic, as will appear from comparison with the Dutch and Frisic. The languages of Latin origin have, however, supplied a vast wealth of words, sometimes necessary, sometimes only adopted because they are more sonorous, though not so emphatic as the original Gothic. There is no evidence of the existence of Celtic words in our language, whatever some antiquaries have imagined, for the words they indicate may also be found in Iceland, a country never peopled by the Celts.

Numerous manuscripts exist, written in the Anglo-Saxon or old English language, and one of its most classic authors is the great Alfred himself. It appears from many works, written long after the Conquest, that the French language, though colloquial among the great, scarcely imparted any tinge to the national tongue. The conquests of Edward III. in France, and other circumstances, effected, in the fourteenth century, a change in vain attempted by the Norman conqueror. Chaucer, who wrote at that period, presents almost the first rude dawn of what may be termed the English language. In the same century, that fabulous traveller Sir John Manderville supplies one of the best specimens of English prose.

In the succeeding century, the speech had made such rapid advances, that even as early as the reign of Edward the Fourth, we find it vary very little from that of the reign of Henry the Eighth. The works of Fortescue, in the reign of Edward the Fourth, setting aside the orthography, might even be perused by the common reader.

In the reign of Queen Elizabeth, a century after, the English language had acquired such copiousness, dignity, force, and melody, that perhaps in the eye of very distant posterity, moderns may be supposed never to have exceeded, what is gained in elegance being generally lost in power. Sydney's defence of poetry may be regarded as a good specimen of English prose, not to mention Hooker's ecclesiastical polity, and other large works of that period, which continue to be read and admired.

The common translation of the bible is a noble specimen of the dignified prose of the following reign, beyond which it is unnecessary to conduct this sketch, as our libraries abound with the succeeding publications.

The construction of the English language is peculiar, and renders the study of it very difficult to foreigners. The German and other Gothic dialects present declensions of nouns, and other correspondencies with the Latin, while in the English all such objects are accomplished by prefixes. Anomalies also abound, and are too deeply rooted, ever to be eradicated by grammatical rules. Farther remarks would be foreign to the plan of this work, which however requires, occasionally, short specimens of the various languages of the globe, to enable the reader to judge of the relative origins of nations: for this purpose the Lord's prayer is generally

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generally chosen, which shall be here given in Anglo-Saxon and modern English.

*Uren fader thic arth in heofnas. Sie gebalgud thin noma. To cymeth thin ryc. Sie thin willa, sue is in heofnas and in eorþho. Uren blasferwistlic sel us to daeg. And forþege us scylda urna sue we forgesan scyldgum urum. And no inlead usfig in cufstnung. Ah gefrig usþeh frim isle. Amen.*

Our father, which art in heaven, hallowed be thy name; thy kingdom come, thy will be done on earth as it is in heaven; give us this day our daily bread, and forgive us our debts as we forgive our debtors; and lead us not into temptation, but deliver us from evil. Amen.

LITERATURE.] English literature is a vast and inviting field; but a few fugitive remarks must here suffice. Of the traditional verses of the Druids, no relic probably exists; and the Roman conquest does not appear to have inculcated letters with much diffusion, for no author of those periods claims a British origin. The country was seized by the Saxons, before British literature faintly dawned in Gildas, A. D. 560. Irish literature commenced about the same period, and continued for some centuries to supply numerous writers in the Latin language, while England remained almost destitute. But Beda in the eighth century redeemed this defect, in himself a host, and, like Chaucer, the wonder of his time. The Danish invasions were ruinous to literature, both in Great Britain and Ireland, and the great Alfred was obliged to exert his utmost endeavours in order to restore some degree of learning even among the clergy. That admirable prince himself translated some works of merit and utility, as the histories of Orosius and Beda into the Anglo-Saxon. Of the interval between the age of Beda and the year 1100, the Saxon chronicle is a noble but neglected monument, being the only civil history of England, for a space of 400 years. About the year 1100, English literature commenced a firm and steady pace; a numerous train of historians, poets, and other writers, fills the pages of biography. In the fourteenth century, Roger Bacon aspires even to the praise of eminent genius. In the following century, the civil wars between the houses of York and Lancaster were destructive of literature and the arts; nor will it be easy to name an illustrious author of that period, though the introduction of printing in the reign of Edward the Fourth forms a memorable epoch. The writers of the sixteenth and following centuries are numerous and well known.

The grand feature of English literature is original genius, transmitted even from Roger Bacon to our Shakespeares, Miltons, Newtons, and Lockes, not to dwell here on claims more minute, but equally firm. In scientific departments, England must yield to France, except in the various branches of mathematical knowledge; the institution of the royal society, and the genius of Newton, having attracted the greatest talents within their sphere, to the neglect of other branches of curious investigation. The English clergy, who far exceed in learning any other body of that description in Europe, have always cultivated classical literature with distinguished zeal and predilection.

ARTS.] The present state of the arts in England is worthy of so opulent and refined a country, and the progress has been rapid beyond example. Some faint traces of painting occur in the thirteenth century; but the names and country of the artists do not appear, except that of William of Florence, where the art had faintly begun to revive. In the reign of Edward I. the magnificent castles built in Wales attest the genius and skill of the architects, while their individual fame is lost in obscurity.



scurity : and towards the end of the fourteenth century, rich monuments of architecture and sculpture are interspersed with some few remains of painting. But England continued, till the last century, to import her chief painters from abroad ; as Holbein, Antonio More, Zuccherro, Janfen, Mytens, Rubens, Vandyke, Lely, Kneller, &c. &c. Yet in miniature and engraving, there were excellent native artists in the seventeenth century, and an eminent native architect, Inigo Jones. In the beginning of the eighteenth century, even the noble architecture of St. Paul's did not redeem the other arts from great decline, till Hogarth instituted examples of ethic and characteristic painting, which have deservedly excited the admiration of Europe. The present reign has not only been distinguished by patronage of the arts, but been fortunate in exuberance of artists of deserved reputation. In painting, engraving, architecture, and sculpture, we now also boast of many distinguished native names ; but in music we still revere the superior skill of the Germans and Italians.

**EDUCATION.]** In a view of any country, education forms one of the most important topics, as its consequences extend to the essence and well-being of the community. The education of the lower classes in England had become extremely neglected, before the benevolent institution of the Sunday schools. There can be no doubt that where the common people are the best instructed, there they will be found the most quiet, contented, and virtuous ; as they feel a conscious self-respect, are accustomed to be treated with regard by each other, and will cheerfully extend the same reverential conduct towards their superiors in the favours of fortune ; and a practical estimate of the advantages of general education, may be formed by comparing the neglected peasantry of Ireland, with the peaceable Highlanders of Scotland, where public schools exist in every parish. The middle and higher ranks of English spare no expence in the education of their sons, by private tutors at home, or at what are called day schools and boarding schools. Our most eminent public schools are those of St. Paul's, Westminster, Eton, and Winchester ; and from them have arisen some of the most distinguished ornaments of their country. The scholars in due time proceed to the universities of Oxford and Cambridge ; foundations of an extent and grandeur that impress veneration. The number and era of the colleges will appear from the following list :

#### University of Oxford.

- 1263. Baliol College—Founder, John Baliol (father of John, king of Scotland), and his wife, Dervorgilla, countess of Galloway.
- 1270. Merton College, first erected at Malden, near Kingston, in Surrey, A. D. 1260, and ten years after removed to Oxford. The founder was William de Merton, Lord Chancellor to Henry III.—Walter Merton, bishop of Rochester.
- 1292. University College—William, archdeacon of Durham\*.
- 1316. Exeter College—Walter Stapleton, bishop of Exeter.
- 1327. Oriel College—Adam de Brome, almoner to Edward II.
- 1340. Queen's College—Robert Eglesfield, chaplain to queen Philippa.
- 1379. New College—William of Wickham, bishop of Winchester.
- 1420. Lincoln College—Richard Fleming, archbishop of York.
- 1437. All-Souls—Archbishop Chicheley, archbishop of Canterbury.
- 1458. Magdalen College—William of Wainflet, bishop of Winchester.
- 1512. Brazen Nose—William Smith, bishop of Lincoln.

\* Gough's Camd. i. p. 36. &c.

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1516. Corpus Christi—Richard Fox, bishop of Winchester.  
 1524. Christ Church—Wolfey and Henry VIII.  
 1518. Trinity College—Thomas Hatfield, bishop of Durham, and completed by Sir Thomas Pope.  
 1437. St. John's—by archbishop Chicheley, re-endowed by Sir Thomas White, 1557.  
 1571. Jesus College—Dr. Price.  
 1613. Wadham—Nicholas Wadham, Esq.  
 1624. Pembroke—Thomas Tefdale, Esq.\*

There are besides several halls or smaller colleges, and some recent foundations. The laudable favour of the Oxonians adores Alfred as the founder of what is called the University College, and even assigns the date of 886; but candid antiquaries assert, that the passage in one or two old chronicles alleged in support of this idea, is a manifest interpolation, not to be found in the best manuscripts: and though great schools of divinity may have previously existed at Oxford, such were also known at other places which lay no claim to the title of university.

#### University of Cambridge.

1257. Peter-house—Hugh Balsham, bishop of Ely.  
 1344. Clare-hall—Elizabeth de Burg, countess of Ulster.  
 1343. Pembroke-hall—Mary de Valentia, countess of Pembroke.  
 1348, and 1557. Gonville and Caius—The Doctors so named.  
 1351. Trinity-hall—William Bateman, bishop of Norwich.  
 1356. Bene't or Corpus Christi—Henry Duke of Lancaster.  
 1443. King's College—Henry VI.  
 1448. Queen's College—Margaret of Anjou.  
 1475. Catharine-hall—Dr. Woodlark.  
 1496. Jesus College—John Alcock, bishop of Ely.  
 1506. Christ's College } Margaret, Countess of Richmond, mother of  
 1511. St. John's } Henry VII.  
 1542. Magdalen College—Thomas, Lord Audley.  
 1546. Trinity College—Henry VIII.  
 1584. Emanuel—Sir Walter Mildmay.  
 1596. Sydney College—Frances Sydney, countess of Sussex.  
 1809. Downing College—now erecting, in pursuance of the will and bequest of Sir George Downing, Bart.

Of the two universities, many minute descriptions have appeared. Oxford is the more majestic; from the grandeur of the colleges and other public buildings, and the superior regularity and neatness of the streets: but the chapel of King's College, at Cambridge, is supposed to excel any single edifice of the other university. Both of those magnificent seminaries impress every feeling mind with reverential awe; not only by their architectural dignity, but by a thousand collateral ideas of ancient greatness and science.

[CITIES AND TOWNS.] In giving a brief account of the chief cities and towns in England, a few of the most important shall be arranged according to dignity, opulence, and population: and the others shall be stated without preference, in a kind of progress from the south-west to the north.

LONDON, the metropolis of England, is situated in an extensive plain or valley, watered by the Thames, and only confined on the north by a few small elevations; being a place of great antiquity, and first mentioned by Tacitus. It now includes Southwark, a borough on the other side of the Thames, and Westminster, another city on the west; so that, like some places of ancient geography, it might be named *Tri-polis*, or three cities. The noble river Thames is here about 440 yards in breadth, crowned with three bridges, crowded with a forest of masts, and conveying into London the wealth of the globe, forming an excellent port, without the danger of exposure to maritime enmity. It is, however, a great defect, that instead of open quays and streets on the banks of the stream, the view is obstructed on both sides by irregular masses of building, which do not even admit of a path. London presents almost every variety which diversifies human existence. Upon the east it is a sea-port, replete with mariners and with the trades connected with that profession. In the centre, it is the seat of numerous manufactures and prodigious commerce; while the western or fashionable extremity presents royal and noble splendour, amidst scenes of the highest luxury and most ruinous dissipation.

Few cities can boast a more salubrious situation, the subjacent soil being pure gravel; by which advantage, united with extensive sewers, the houses are generally dry, cleanly, and healthy. Provisions and fuel are poured into the capital, even from distant parts of the kingdom; the latter article being coals, from the counties of Northumberland and Durham, transferred by sea, and thence denominated sea-coal\*. London requires in one year 101,075 beeves, 707,456 sheep, with calves and pigs in proportion: the vegetables and fruits annually consumed are valued at a million sterling†.

The population of London has by some been exaggerated to a million of souls; but by the late enumeration it contains about 860,000. Its length from Hyde-park Corner on the west to Poplar on the east, is about six miles; the breadth unequal, from three miles to one and less; the circumference may be about sixteen miles. The houses are almost universally of brick, and disposed with insipid similarity; but, in recompence, most of the streets are excellently paved, and have convenient paths for foot passengers; a mark of respect to the common people almost unknown to the capitals on the Continent. Another national feature is the abundance of charitable foundations for almost every infirmity and distress incident to human nature. The multitude and rich display of the shops impress strangers with astonishment; nor are they less surprised at the constant torrent of population rolling through the principal streets, nor at the swarm of carriages at all times crowding all the roads to the capital, and the nocturnal illuminations which extend even to four or five miles of the environs. Though the impression of the tide be felt as far as Staines, the Thames at London, and a considerable way below, is untainted with salt. Its waters are raised by machinery, and conducted in innumerable pipes for domestic uses; while the parts more remote are supplied with water from some small ponds near Hampstead, and from that laudable work of Middleton, the New River, which conveys a copious addition from the north.

\* Mr. Middleton, in his *View of Middlesex*, 1807, supposed that 700,000 chaldrons are yearly consumed in that county. *Stewart on Coal*, p. 191, says 886,167.

† *Ibid.* 643. Mr. Pennant, *Brit. Zool.* 4. 9. says, 60,000 lobsters are annually brought to London from near Montreuil.

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The environs of London present a spectacle almost as grand and interesting as that of the metropolis itself. Extensive streets of villas and houses are continued in almost every direction within seven or eight miles. Yet few of the public edifices in London can pretend to much magnificence. The cathedral of St. Paul's forms one of the chief exceptions; the exterior architecture of this principal cathedral of the Protestant faith being majestic to a degree of sublimity, but the interior is defective in decoration.

Westminster-abbey may claim the next rank to St. Paul's cathedral; being not only in itself a grand impressive edifice of the Gothic class, but as being the sanctuary of the illustrious dead of all ranks, periods, and professions, from the victorious monarch down to the humble pedagogue. It was founded by Sebert, king of the East Saxons; was afterwards ruined by the Danes, and re-founded by Edward the Confessor, whose tomb is the most ancient now remaining. The present edifice was the work of Henry III.; and Henry VII. added an elegant chapel, and his tomb, the work of Torrigiano: in the vaults under this chapel, the late monarchs and their offspring have been deposited. Adjacent are the two houses of parliament, and Westminster-hall; a vast room, 230 feet long and 70 wide, with a curious ceiling of Irish oak, and apartments on the side, in which are held the principal courts of justice.

The churches and chapels exceed 200 in number, and a few are of beautiful architecture. Some are the productions of Inigo Jones; as is also the noble banqueting-house at Whitehall, with a masterly ceiling painted by Rubens, representing the apotheosis of James I. The new theatre of Covent-garden may be added as doing honour to the taste of the architect and managers.

Near London bridge, a pillar of 193 feet elevates his bold front above most of the spires, and is called the Monument, being destined to commemorate the conflagration of London in the reign of Charles II. The Tower is only venerable from ancient fame, and remarkable for the curiosities which it contains. The royal palace of St. James's is an irregular building, of very modest aspect. The Queen's palace, formerly Buckingham-house, only aspires to elegant convenience, but contains some valuable paintings, and an excellent library formed solely by the taste of the reigning monarch. The palace of Kennington presents an exuberance of valuable pictures, little known, and rarely visited. The houses in the west-end of the town of themselves shew the gentle gradations of rank in England; those of the chief nobility being rarely distinguishable from the others: the more remarkable are Foley-house; Chesterfield-house; Lord Spencer's, in the Green-park; Marquis of Lansdowne's, Berkeley-square; Duke of Northumberland's, at Charing-cross; Burlington-house, with a fine colonnade behind the front wall; and those of the Duke of Devonshire and the Earl of Bath, all in Piccadilly; nor must Cumberland-house and Carleton-house, in Pall-mall, be forgotten.

YORK. Next to the capital in dignity, though not in extent nor opulence, is York; which is not only the chief of a large and fertile province, but may be regarded as the metropolis of the North of England. The name has been gradually corrupted from the ancient Eboracum; by which denomination it was remarkable, even in the Roman times, for the temporary residence and death of the Roman Emperor Severus. This venerable city is divided by the river Ouse; and the Gothic cathedral is of celebrated beauty, the western front being peculiarly rich, the chief

tower very lofty, and the windows of the finest painted glass. York divides with Edinburgh the winter visits of the northern gentry. Its inhabitants, according to the late enumeration, amount to 16,145.

**LIVERPOOL.** But Liverpool, in Lancashire, is now much nearer to London in wealth and population: being the seat of a vast commerce, which has been continually on the increase since the beginning of the last century, when it was merely a village. In 1699, Liverpool was admitted to the honour of being constituted a parish. In 1710, the first dock was constructed; and the chief merchants came originally from Ireland, a circumstance which has given a distinct tinge to the manners of the town. Thenceforth the progress was rapid, and in 1760 the population was computed at 25,787 souls\*. In 1773, they amounted to 34,407; in 1787, to 56,670; and by the enumeration in 1801, they were found to have increased to 77,653.

The number of ships which paid duty at Liverpool in 1757, was 1371; in 1794, they amounted to 4265. In the African trade, once a distinguishing feature of Liverpool, there was only one ship employed in 1709; in 1792, they amounted to 132. In the recent act for the contribution of seamen to the royal navy, according to the ships registered in each, the estimate is as follows:

|            |      |             |     |           |     |
|------------|------|-------------|-----|-----------|-----|
| London,    | 5725 | Hull,       | 731 | Bristol,  | 666 |
| Liverpool, | 1711 | Whitehaven, | 700 | Whitby,   | 573 |
| Newcastle, | 1240 | Sunderland, | 669 | Yarmouth, | 506 |

**BRISTOL** is still a large and flourishing city, though much of its commerce with the West Indies and America have passed to Liverpool. This metropolis of the west of England gradually rose to eminence in the Anglo-Saxon period; and was so flourishing and opulent in the reign of Henry II. that, besides other charters, he granted the possession of Dublin, in Ireland; and a colony from Bristol was accordingly transplanted †. The trade with Ireland has continued chiefly to center in this city: even in that reign, as ancient writers inform us, the port of Bristol was replete with vessels from Ireland, Norway, and other parts of Europe. Bristol is pleasantly situated at the confluence of the Frome with the Avon. The hot-wells in the neighbourhood appear to have been known in 1480: but the water was chiefly used externally till about the year 1670; when a baker dreaming that his diabetes was relieved by drinking the water, he tried the experiment and recovered †. Since that period its reputation has increased, and many commodious and elegant erections have contributed to recommend these wells to invalids. In the adjacent rocks are found beautiful crystals, which before the introduction of artificial gems, were greatly in fashion for female ornaments. The trade of Bristol is chiefly with Ireland, the West Indies, or North America, Hamburg, and the Baltic; that with Guinea, not the most laudable, had been resigned to Liverpool. By the navigation of the two rivers Severn and Wye, Bristol also engrosses much of the trade of Wales. In 1787, Bristol employed about 1600 coasting vessels, and 416 ships engaged in foreign commerce‡. Inhabitants in 1801, 68,645.

**BATH.** The proximity may here authorize the mention of Bath, esteemed the most elegant town in England. The hot-baths, from which it derives its name, were known in the Roman times; nor was their celebrity lost, even in the dark period of Anglo-Saxon history. But the

\* Alkin's Man. 333. et seq.

† Barret's Bristol, 190.

† Barret's Bristol, 49. 57.

‡ Ibid. 93.

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\* Alkin's  
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town has been greatly enlarged and decorated in the last century. The waters are used both internally and externally, chiefly in gout, bilious, and paralytic cases; being frequented at two times in the year, what is called the spring season from April to June, and the autumnal from September to December. Two thirds of the company are attracted merely by amusement, society, and dissipation; in all which it is only second to London. Situated in a vale, Bath is very hot in summer. The houses are constructed of white limestone, which abounds in the vicinity. Its inhabitants in 1801, amounted to 32,200.

But next to Bristol, in point of opulence, must be classed the towns of Manchester, Birmingham, and Sheffield.

Manchester, in Lancashire, was known in the Roman times under the name of Mancunium, a small Roman station; but it continued in obscurity till the time of Elizabeth \*, when Camden mentions its manufacture of woollen-cloths, then called *cottons*. During the civil wars under Charles I., Manchester remained in the hands of the parliament. In 1708, the inhabitants were only computed at 8000. In 1757, they fell short of 20,000; at present, they amount to 84,020. The cotton manufactures of Manchester are sufficiently known over Europe; and the machinery, greatly indebted to the genius of an Arkwright, excites astonishment at the progress of human art and industry †.

Birmingham, in Warwickshire, was originally a village, belonging to a family of the same name, whose monuments remain in the old church. Leland mentions it as a town inhabited by smiths and cutlers, in the time of Henry VIII.; and by limers, now called bit makers. The extension and improvement of Birmingham originated in a great degree from Mr. John Taylor, who introduced the manufacture of gilt buttons, and japanned and enamelled works; but the toy manufacture was known in the reign of Charles II. The great fabrick called Soho, belonging to Messrs. Boulton and Watt, is situated about two miles from Birmingham, but in Staffordshire. Between the year 1741 and 1790, Birmingham had received an augmentation of seventy-two streets, 4172 houses, and 23,320 inhabitants ‡: the population in 1791, amounted to 73,670.

Sheffield, in the most southern part of Yorkshire, is styled by Leland the chief market-town in Hallamshire (for in the north many particular districts usurp the name of shires.) The company of cutlers of Hallamshire was established by act of parliament in 1625; but Sheffield had been distinguished for a kind of knives called whittles, and other articles of cutlery as early as the thirteenth century; yet till within the last half century, the manufactures of Sheffield were conveyed weekly to the metropolis, on pack horses. In 1751, the river Don was rendered navigable to within two miles of the town; which facilitated the export. The plated goods commenced about 1758. In the year 1615, the population only amounted to 2152; in 1755, to 12,983; in 1789, about 30,000§. At present, it is equal to 35,000.

The other chief towns in England, not aspiring to such pre-eminence, though several be of far more importance than others, shall be classed, as before-mentioned, in a kind of geographical order, beginning at the south-west, and proceeding to the north.

Falmouth, in Cornwall, the most westerly port in England, with a population of 3,684, is chiefly remarkable for the arrival and dispatch of packet-boats and is now forming into a naval depôt; but Exeter, in

\* Aikin's Man. 146.

† Hutton's Hist. of Birmingham.

‡ Aikin's Manchester, 149. 156.

§ Aikin's Man. 335. et seq.



the adjacent county of Devon, is an ancient and respectable city. It is the seat of an extensive commerce in coarse woollen goods, manufactured in a part of Somersetshire and in Devon and Cornwall \*. They are exported to Italy, and other parts of the continent, to the annual value, as is supposed, of 600,000*l.*, and the East India Company purchase yearly to a considerable amount. Besides the native wool of the above mentioned counties, Exeter imports from Kent about 4000 bags a year. Some ships are also occupied in the cod-fishery of Newfoundland, and in the Greenland capture of whales. The imports are from Spain, Italy, Hamburg, and the Baltic; and coals from the north of England and Wales. It is, moreover, the residence of many genteel families; and the frequent resort of others from the neighbouring counties. Inhabitants, 17,398.

Plymouth is a celebrated port, with a population of 43,194.

Dorchester, the chief town of the county of Dorset, is a place of considerable antiquity, situated on the river Frome; but has no manufactures, and is only celebrated for its malt liquor. Inhabitants, 2,402.

Salisbury, the principal town of Wiltshire, is chiefly remarkable for extreme neatness; and for its cathedral, a beautiful piece of Gothic architecture, with the loftiest spire in England, the height being 400 feet. There is a manufacture of flannels, and another of cutlery goods and hardware, the superiority of the scissars being particularly noted. Inhabitants 7,668. Wilton, in the same county, is famed for the manufacture of beautiful carpets.

Winchester the chief city of Hampshire, was for many centuries the metropolis of England; a pre-eminence which it did not wholly lose till the thirteenth century †. The port was Southampton; but the superior safety and convenience of that of London gradually restored the latter to that metropolitan dignity which it held in the Roman period. Winchester remains a venerable city, with many vestiges of ancient fame and splendour. It is situated in a bottom, amid open chalky downs, upon the small river Itchyn. The cathedral rather impresses the idea of majestic gravity than of magnificence; and has no spire, having been erected before that mode of architecture was used. The ashes of several Saxon monarchs are here preserved with reverence. Not far from the cathedral stands the celebrated college founded by William of Wickham, and which has sent forth many illustrious characters. The regulations of this school are in some instances peculiar and severe; but in this, and the other grand English seminaries, the equality of the pupils, except in respect of age and abilities, and even the subserviency in which the younger are held by the elder, tend to steel and fortify the mind against the subsequent cares and emulations of life. In the centre of the city is a small but most elegant Gothic cross; and at the western extremity is the shell of a palace, built under the direction of Sir Christopher Wren, yet heavy and inelegant; it was begun by Charles II., but left unfinished at his death. It has since been used for French prisoners, and in 1796 was the residence of about 640 emigrant priests from France. The inhabitants of this city, by the late enumeration, amount to 5,826.

In the same county is situated Portsmouth, the grand naval arsenal of England. The harbour is noble and capacious; narrow at the entrance but spreading out into an inland bay five or six miles in length, and from two to four in breadth. The advantages derived from nature have been improved by the art and industry of successive generations; and to

\* Atkin's Engl. delineated, p. 335.

† Milner's Winchester.

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a patriot, Portsmouth presents one of the most interesting scenes to be found in the British dominions. The regular fortifications towards the land, in themselves happily a novelty to the British eye, the magnitude and variety of the maritime objects and manufactures, and the prospect of Spithead, the grand focus of naval armament, conspire, with a thousand relative ideas concerning the power of England, supreme in every sea, to excite our astonishment and exultation. Inhabitants, exclusive of Gosport, 32,166.

Lewes is esteemed the chief town of Sussex; the situation is lofty and picturesque, especially the site of the ancient castle belonging to the once powerful Earls of Warren and Sussex. Beneath, in a pleasant plain watered by the river Ouse, stand the ruins of an ancient nunnery. Inhabitants, 3,309.

Chichester retains some little traffic; but it is chiefly regarded as an ancient city, and a bishop's see. Brighthelmston is a fashionable resort for the sea air and bathing. An extensive beach extends four miles under lofty cliffs; and on the other side are wide open downs, composed of numerous verdant hills diversified with winding cavities. Towards Shoreham are pits of a kind of bitumen, which might, perhaps, be used in some manufacture. When dried and rolled by the waves, it forms balls of various sizes; frequent on the beach and formerly used as fuel by the poor, though since forbidden on account of the noxious smell. Brighthelmston not only presents the nearest open shore to the capital, but is distinguished for the peculiar mildness and salubrity of the air. Inhabitants, 7,339.

Canterbury, the chief town of Kent and the metropolis of the English church, is chiefly remarkable for ecclesiastical antiquities. Its inhabitants amount to 9000. The county town is Maidstone, noted for hops and thread. Kent presents many other important towns, as Deptford, Greenwich, Woolwich, Gravesend, Chatham, Rochester, and the fashionable resorts of Margate, Ramsgate, and Tunbridge. Dover and Deal are remarkable havens.

Having completed this brief survey of the chief towns to the south of the Severn and the Thames, those of the middle and northern counties may be again commenced from the west.

Hereford, the capital of a county bordering on Wales, was known in the Saxon times as an episcopal see. The castle, supposed to have been founded in the reign of the Confessor, was on the left bank of the river Wye. The cathedral is large; but the town presents little remarkable, having gone into great decay; the only manufacture is that of gloves\*. Inhabitants, 6828.

Gloucester, the capital of the county so called, is admired for the regularity of the four principal streets joining in the centre of the town. It avails itself of the traffic of the Severn; which, among other fish, affords a luxurious supply of lampreys. This town has been recently celebrated for its neatness, and the cheapness of provisions. Inhabitants, 7579.

Worcester is also situated on the noble river Severn, over which there is a beautiful bridge. The manufactures are chiefly gloves and woollen stuffs; and the porcelain maintains a high reputation. Inhabitants, 11,353.

On the east, the first town of note is Coventry, esteemed the most inland and central of the English towns; whence, perhaps, the military phrase of sending a man to Coventry, where he would be the most remote from

\* Gough's Camden, ii. 450.

service. The manufactures are chiefly ribbons, with a few gauzes and camlets. The beautiful cross erected in 1541, after being much damaged by the lapse of years, has been taken down\*. Inhabitants, 16034.

The next memorable place is the city of Norwich, the capital of Norfolk. It is, however, not mentioned till the year 1004; when it was ruined by the Danes. The worsted manufactory is supposed to have been introduced here by the Flemings, in the twelfth century, and was followed by that of sayes, arras, bombazeens, &c. Of late the damasks, camlets, crapes, stuffs, &c. here wrought, have been computed at the yearly value of 700,000l.; but the fashionable use of cottons, and the interruptions of commerce by war, have considerably lessened the consumption. The wool is chiefly from the counties of Lincoln, Leicetter, and Northampton; the chief exports, to Holland, Germany, and the Mediterranean†. Norwich is of course opulent and extensive, but the streets are confined and devious. Inhabitants, 36,850.

Yarmouth is a noted sea-port, with a beautiful quay; and remarkable for its fisheries of mackarel in May and June, and herrings in October and November; the latter, cured by salt, and dried in the smoke of wood, are called red-herrings; and, besides home consumption, form a considerable article of export to Spain and Italy. Inhabitants, 14,845.

In proceeding northwards, Lincoln must arrest attention; though now much fallen from its former fame. The interior of the cathedral is admired for its lightness and magnificence. The sheep of the county form a celebrated breed, but the wool goes chiefly to Norwich. Lincoln trades in coals, imported on the Trent. Inhabitants, 7,398.

Derby, which gives name to the county so called, is a neat town on the river Derwent, with five parishes and a population of about 11,000 souls. In 1734 the first mill for throwing silk was here established, the model having been brought from Italy. There is a celebrated and unique manufacture at Derby, celebrated all over Europe, that of the fluur, which is raised from the lead mines, in masses of such a size and beauty as have never yet been discovered in any other region of the world.

In a chorography of England, Leicester and Shrewsbury might deserve description; but its geography can only embrace the most important topics. The city of Chester must claim the next consideration. It is of Roman origin, and the chief streets are singular in their construction, being excavated beneath the level of the ground, while a covered portico, in the front of the houses, affords an elevated and sheltered foot-path; beneath are the shops and warehouses, on the level of the street, to which the passenger descends by occasional stairs. The trade of Chester is not considerable, but it carries on a share of the traffic with North Wales; and its two annual fairs are famous for the sale of Irish linens. It is the favourite residence of many genteel families from Wales‡. Inhabitants, 15,052.

Near an extensive bay of the Irish sea, which might now be termed the bay of Lancaster, while antiquaries affect to retain the Roman name of *Moricambe*, stands Lancaster, an ancient and populous town. The name is in the north pronounced Loncafter, the proper etymology, as it stands upon the river Lon. When the counties of Cumberland and Westmoreland belonged to the Scots, this was regarded as a kind of frontier place; and was defended by a strong castle, situated on a commanding

\* Gough's Camden, vol. ii. p. 345.

† Pennant's Tours. Aikin, 92.

‡ Aikin, 216.

eminence. Lancaster afterwards gave the title of Duke to princes of the royal blood; and the contentions of the houses of York and Lancaster are well known. There is a bridge of five arches over the Lon; which opens into a considerable haven, the seat of a moderate commerce, especially with the West Indies. A noble aqueduct has been constructed by Mr. Rennie. Inhabitants 9,030.

On the east, the extensive province of Yorkshire contains many flourishing towns, besides the capital York, and Sheffield, already described. On the Humber, the wide receptacle of many rivers, stands the great sea-port of Hull, or Kingston-upon-Hull; the latter name being only that of the rivulet. The town was founded by Edward I. Several privileges were obtained from Richard II.; and the first staple of trade, was stock-fish imported from Iceland. In the civil wars of the 17th century, Hull displayed the first flag of defiance against the monarch. The harbour is artificial, and is supposed to present the largest dock in the kingdom. The trade is important with America and the south of Europe, but chiefly with the Baltic; and several ships are employed in the northern whale fishery. The coasting traffic is extensive in coals, corn, wool and manufactures: and Hull supplies the commerce of many northern counties; having not only communication with the Trent, and other branches of the Humber, but with the rivers and canals of Yorkshire\*. Its inhabitants amounted in 1801 to 29,516.

Leeds, Bradford, Halifax, and Wakefield, are the chief centres of the great manufactures of woollen cloths and stuffs. Leeds is the principal mart for broad-cloths, or what foreigners term fine English cloth. It is situated on the river Aire, in an extensive vale; and the population of the parish amounts to 53,162: the cloths are woven in the neighbouring villages; but are dyed, prepared, and sold at Leeds. The cloth-hall appropriated to the sale, is a vast edifice; and the whole business is transacted within the space of an hour on the market days. Halifax is an elevated situation, and very populous. It is the chief market for the thinner woollen cloths; such as stuffs, calimancoes, &c. Scarborough, on the eastern coast, is a place of celebrated resort for sea-bathing, and on account of its mineral water; the site is romantic, but the port is small, and chiefly frequented by fishing vessels.

Durham is a pleasant and venerable city, extending partly over an eminence: the river Were, winding around in the form of a horse-shoe, renders it peninsular.\* Near the neck of land is placed the castle, of which little more than the keep remains; which is surrounded by the pleasant garden of the bishop's adjacent palace. Towards the point of the peninsula stands the cathedral; a most august edifice, in a most august situation, with deep declivities on the south and west, down to the river; the banks of which are finely wooded, and rich in the wild beauties of nature, which have been improved, not injured, by the taste and opulence of the clergy. The bridge on the east is narrow, and meanly executed; but on the south, there is an elegant modern bridge; and on the west, that of bishop Flambard is admired for the lightness and beauty of the arches. About a mile from the town, on this side, stands Nevil's cross; where David II. king of Scotland, was taken prisoner after a bloody conflict. The cathedral was built about the year 1004, at least the lower part, which belongs to what is called the Saxon form of architecture, and is now repairing at the expence of the bishop and chapter. Some branches of the woollen manufacture are carried on at Dur-

\* Aikin, Engl. delin. 36.

ham, and a few elegant carpets have been lately made there in a kind of Mosaic form. Inhabitants, 7530.

Stockton on the river Tees, Sunderland at the mouth of the Were, and South Shields on that of the Tyne, are sea-port towns in the bishopric (for so the county of Durham is commonly styled in the north) of considerable size, trade, and population. Hart-le-Pool is only a bathing place.

On the river Tyne stands Newcastle, so termed from a fortress erected by Edward I. This large and populous town, containing 28,366 inhabitants, is placed in the centre of the great coal-mines in the counties of Durham and Northumberland, which have for centuries supplied London and most of the east and south of England with that fuel; which has, perhaps, contributed more to the manufactures and commerce, and consequent wealth and power of this kingdom, than any other material or circumstance. The coal fleets sometimes amount to five hundred sail; their station is at Shields, and the quays Jarrow and Willington. Even as a nursery of seamen, the trade is invaluable\*. In all parts of the neighbourhood are seen large carts laden with coals, and proceeding towards the ports, on inclined planes, without the help of horses or men, to the great surprise of the stranger†. Near Newcastle are also found quarries of grind-stone; and many glass-houses smoke around, the productions of which have been recently of remarkable purity. Other exports are, pickled salmon, lead, salt, butter and tallow. The suburb of Gateshead stands on the south of the Tyne, and is connected with the city by a grand bridge. The shops and crowded streets recal the idea of London; but the latter are generally narrow, steep, and incommodious.

Berwick-upon-Tweed, being on the Scottish side of the river, shall be reserved for the description of that country. The chief remaining town in England is Carlisle, the capital of the county of Cumberland, placed at the confluence of the rivers Pettril and Caldew, with the Eden‡. The old fortifications remain nearly entire. It is supposed to have been the ancient Luguballia; but neither the castle nor cathedral are remarkable. The chief manufactures are linens printed and checked, whips, and fish hooks. The town is little, but populous, containing 10,221 inhabitants; and is chiefly memorable for transactions in the ancient wars between Scotland and England.

Wales, a country abounding in the sublime and beautiful features of nature, contains many towns of note; and the description of a few has been reserved to this place, for the greater clearness of arrangement.

Swansea is on many accounts entitled to be ranked as the first town in Wales. By the returns its population is estimated at 6099, which is considerably under the real amount. It possesses a very commodious and safe harbour, lately greatly improved by the erection of two fine piers. Its trade in coal and copperas is very extensive. It stands at the mouth of the river Tawey, which is navigable about three miles above the town. It once possessed a fine castle, very considerable remains of which are still preserved in fine repair. It is a fashionable resort for bathers in the summer season. The coal is remarkable in mineralogy.

Caermarthen, the capital of a county, is also regarded as the principal town in South Wales: it stands upon the river Towy, and was anciently defended by a castle, now demolished. The haven is shallow, and the trade, of course, not very considerable ||, Inhabitants, 5,548.

\* Gough's Camden, iii. 252.

† Gough's Camden, iii. 175.

‡ Baujas, voyage en Angl. i. 163.

|| Gough's Camden, ii. 504, 507

Pembroke, on a creek of Milford haven, is a small town of little commerce.

Caernarvon is esteemed the chief town of North Wales, for the beauty of the situation, regularity of the streets, and above all for the grandeur of the castle, one of the most magnificent in Europe, founded by Edward I. in 1282. Here was born Edward II. surnamed of Caernarvon, who was immediately created the first English Prince of Wales; his father having equivocally promised to the vanquished Welsh a prince born in their own country, and who could not speak one word of English. The town has a considerable trade with London, Bristol, Liverpool, and Ireland, and has a beautiful quay along the side of the Menai, a strait between North Wales and Anglesea\*.

EDIFICES.] In a brief enumeration of the principal edifices in England, the royal palaces demand of course the first attention. Windsor castle, situated on an eminence near the Thames, has an appearance truly grand, and worthy of the days of chivalry. The view extends as far as the cathedral of St. Paul's; and the whole scene strongly impresses the circumstances so vividly delineated in Gray's pathetic ode on Eton College. This palace contains many noble paintings. Hampton Court is in a low situation, ornamented with aqueducts from the river Colne. This palace is also replete with interesting pictures. The royal gardens at Kew are truly worthy of a great and scientific prince. The ground, though level, is diversified with much art; and the collection of plants from all the regions of the known world, fills the admirer of nature with delight and surprise. They are so disposed, that every plant finds, as it were, its native soil and climate; even those that grow on rocks and lava having artificial substitutes.

The royal palace at Greenwich has been long abandoned, but the observatory does credit to science. It is a plain edifice, well adapted to astronomical observations, and at present ably superintended by Mr. Pond. Dr. Herschell's observatory, instead of containing his telescope, is suspended from it in the open air, at Slough, near Windsor, where he is continually extending the bounds of astronomical knowledge.

Among the houses of the nobility and gentry, or palaces, as they would be termed on the continent, the first fame, perhaps, belongs to Stowe, the seat of the Marquis of Buckingham; which, for its enchanting gardens, has been long celebrated. When Mr. Beckford's magnificent erections at Fonthill are completed, that fame will be far surpassed. The present intention, however, will be better accomplished by a brief view of the edifices, as they occur in the order of counties above arranged.

Cornwall.—Mount Edgecombe, Lord Edgecombe.

Devonshire.—Powderham-castle, Courtney family.

Wiltshire.—Wilton, Earl of Pembroke's; Fonthill, Mr. Beckford's.

Hampshire.—The Grange, Mr. Henley; the Vine, Mr. Chute.

Surrey.—Earl Spencer's at Wimbledon; Farnham-castle, Bishop of Winchester.

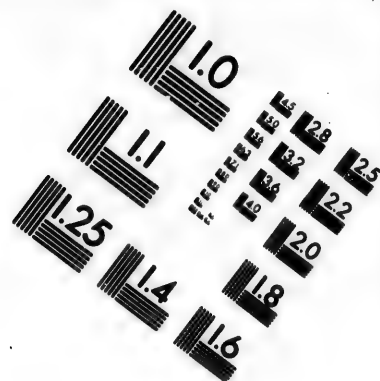
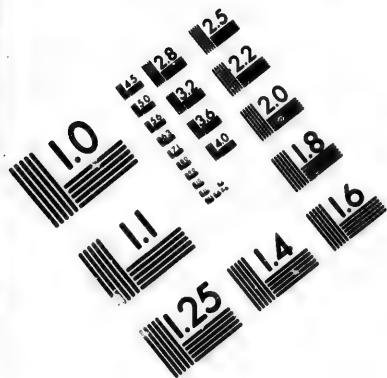
Sussex.—Arundel-castle, Duke of Norfolk; Goodwood, Duke of Richmond.

Kent.—Knowle, Duke of Dorset; Penshurst, near Tunbridge, a famous seat of the Sydneys.

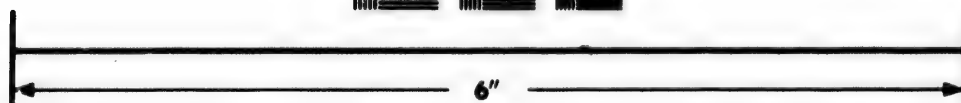
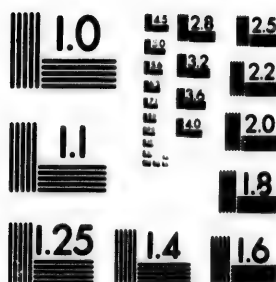
\* Pennant's Wales, ii. 223, 227.







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- Essex.**—Wanstead, Earl of Tilney.  
**Middlesex.**—Sion house, Duke of Northumberland.  
**Bucks.**—Stowe; Bultrode, Duke of Portland, &c. &c.  
**Oxfordshire.**—Blenheim, Duke of Marlborough; Newnham, Earl of Harcourt, &c.  
**Gloucestershire.**—Berkeley-castle, Earl of Berkeley; King's Weston, Lord de Clifford.  
**Herefordshire.**—Aconbury, Duke of Chandos; Clifford-castle, Lord Clifford.  
**Worcestershire.**—Hagley, Lord Lyttleton. The Leafowes of Shensstone is in Shropshire.  
**Warwickshire.**—Warwick-castle, Earl of Warwick.  
**Northampton.**—Althorp, Earl Spencer; Burleigh, Earl of Stamford; and Apthorp, Earl of Westmoreland.  
**Bedfordshire.**—Wooburn-abbey, Duke of Bedford; Luton, Marquis of Bute.  
**Hertfordshire.**—Hatfield, Earl of Salisbury; Gorhambury (once the seat of the great Bacon), Lord Grimstone; Moore-park, Lord Dundas.  
**Huntingdonshire.**—Kimbolton-castle, Duke of Manchester; Bugden, Bishop of Lincoln.  
**Cambridgeshire.**—Thorney-abbey, Duke of Beaufort.  
**Suffolk.**—Euston-hall, Duke of Grafton.  
**Norfolk.**—Houghton, Lord Cholmondeley; Raynham, Lord Townshend.  
**Lincoln.**—Grimsthorpe, Duke of Ancaster.  
**Rutlandshire.**—Okeham and Burley, Earl of Winchelsea.  
**Leicestershire.**—Belvoir-castle, Duke of Rutland.  
**Nottinghamshire.**—Welbeck, Duke of Portland; Workfop, Duke of Norfolk.  
**Derbyshire.**—Chatsworth, Duke of Devonshire; Kedleston, Lord Scarisdale.  
**Staffordshire.**—Beau Desert, Earl of Uxbridge; Dudley-castle, Lord Dudley, &c.  
**Shropshire.**—Okeley-park, Lord Clive; Atcham, Lord Berwick, &c.  
**Cheshire.**—Cholmondeley-hall, Earl of Cholmondeley; Eaton-hall, Earl of Grosvenor.  
**Lancaster.**—Knowsley, Earl of Derby.  
**Yorkshire.**—Sheffield-manor, Duke of Norfolk; Wentworth-castle, Earl of Aylesbury; Hornby-castle, Earl of Holderness; Kiveton, Duke of Leeds, &c. &c.  
**Westmoreland.**—Louth-hall, Lord Lonsdale.  
**Cumberland.**—Greystock-castle, Duke of Norfolk.  
**Durham.**—Raby-castle, Earl of Darlington; Bishop's-Auckland, Bishop of Durham.  
**Northumberland.**—Alnwick, Duke of Northumberland; Morpeth-castle, Earl of Carlisle, &c.

Wales abounds in elegant edifices: as Winstay, the seat of Sir Watkin Williams Wynn; Lord Bulkeley's, near Beaumaris; Duke of Beaufort's, in Brecknockshire; Chirk-castle, in Denbighshire; Hawarden-castle, in Flintshire; Swansea and Cardiff castles, in Glamorganshire; Powis castle, in Montgomery; Picton-castle, in Pembrokeshire.

Among public buildings must not be omitted, the noble hospitals for seamen and soldiers, at Greenwich and Chelsea. Many of the county halls have no inconsiderable claims to elegant architecture.

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**BRIDGES.]** The bridges are worthy the superiority of the English roads; and a surprising exertion in this department, is the recent construction of bridges in cast iron, an invention unknown to all other nations. The first example was that of Coalbrook-dale, in Shropshire, erected over the Severn in 1779. This bridge rests on abutments of stonework, the main rib consisting of two pieces, each 70 feet long, connected by a dove-tail joint fastened with screws. The road over the bridge is made of clay and iron slag, 24 feet wide and one deep; the span of the arch, 100 feet 6 inches; height from the base line to the centre, 40 feet; the weight of iron employed, 378 tons 10 hundred weight\*. Another iron bridge has since been erected in the vicinity. A stupendous iron bridge was thrown over the harbour at Sunderland, about five years ago; the height of which is 100 feet, and the span of the arch 236: it is composed of detached pieces, which, if damaged in any of the parts, may be withdrawn and replaced by others. It is supported between two strong and elevated stone piers, and the arch is surmounted at either end by vast hoops, supporting the platform or passage of the bridge, which is thus rendered almost level. When viewed from beneath, the elegance, lightness, and surprising height, excite admiration, and the carriages appear as if passing among the clouds.

**INLAND NAVIGATION.]** This article is important to the best interests of the country, and demands particular attention. The earliest inland navigation that can be authenticated, is the Sankey canal, leading from the coal-pits at St. Helens, in Lancashire, to the river Mersey, and constructed in order to convey coals to Liverpool†. The length of the canal is twelve miles, with a fall of ninety feet. The act of parliament passed in 1755; the original intention was only to render the rivulet called Sankey Brook, navigable; but it was found more advantageous to form a canal along its course. The surveyor was Mr. John Eyles.

But the Duke of Bridgewater is justly venerated as the grand founder of inland navigation: his spirit and opulence were happily seconded by Brindley, than whom a greater natural genius in mechanics never existed. It was in the year 1758 that the first act was obtained for these great designs. The first canal extends from Worsley mill, about seven computed miles from Manchester, and reaches that town by a course of nine miles. In this short space almost every difficulty occurred that can arise in similar schemes; but mountains and rivers yielded to the genius of Brindley. There are subterraneous passages to the coal in the mountain, of near a mile in length, sometimes cut through the solid rock, and occasionally arched over with brick; with air-funnels to the top of the hill, some of them thirty-seven yards perpendicular. This beautiful canal is brought over the river Irwell, by an arch of thirty-nine feet in height, and under which barges pass without lowering their masts. The Duke of Bridgewater soon afterwards extended a canal of twenty-nine miles in length, from Longford-bridge, in Lancashire, to Hempholton, in Cheshire.

After this deserved tribute to the fathers of inland navigation in England, it will be eligible to review the other canals in a geographical manner, proceeding from the north to the south.

First in order is the Lancaster canal, extending from Kendal, in Westmoreland, by Lancaster, to West Houghton in Lancashire, a space of about seventy-four miles.

\* Gough's Camden, ii. 427.

† Phillips, Hist. of Inland Navigation.

The canal from Leeds to Liverpool, directed in a northerly course by Skipton, winds through an extent of 117 miles; and from this canal a branch also extends to Manchester, begun in 1771.

From Halifax to Manchester is another considerable canal, commonly called that of Rochdale; length thirty-one miles and a half, begun in 1794.

Another canal extends from Manchester towards Wakefield; and another called the Peak Forest canal, stretches from the former, south-east, about fifteen miles.

Another joins the river Dun, several miles above Doncaster, to the river Calder, near Wakefield.

To pass several of smaller note, the Chesterfield canal extends from Chesterfield, in the county of Derby, to the Trent at Stockwith, a course of forty-four miles and three quarters, begun in 1770.

In Lincolnshire, one canal extends from Lincoln to the Trent, and another from Horncastle to Sleaford. Grantham canal reaches from that town to the river Trent, a course of thirty miles.

The grand design of Brindley was to join, by inland navigation, the four great ports of the kingdom, Bristol, London, Liverpool, and Hull. Liverpool is accordingly connected with Hull by a canal from that long navigable river the Trent, and proceeding north to the Mersey. The canal which joins these two rivers is styled the Grand Trunk; and was begun in 1766, under the direction of that great engineer; but was not completed till 1777: the length is 99 miles. It was attended with great difficulties, particularly in passing the river Dove, in Derbyshire, where there is an aqueduct of twenty-three arches, the tunnel through the hill of Hare-castle, in Staffordshire, is in length 2880 yards, and more than 70 yards below the surface of the ground, and was executed with great labour and expence\*. But the utility corresponds with the grandeur of the design: salt from Cheshire, coals and pottery from Staffordshire, and manufactures from various places, are transported on this canal.

From the Grand Trunk five or six branches extend in various directions; among which must not be omitted that to the river Severn, near Bewdley, which connects the port of Bristol with those of Liverpool and Hull; the length is 46 miles; completed in 1772.

From the city of Chester one canal extends to the Mersey, and another to Nantwich; another proceeds south to Shrewsbury, uniting the Mersey and the Severn; with north-west and south-east branches of considerable length.

From Coventry, in the centre of the kingdom, canals extend to the Grand Trunk; to Ashby-de-la-Zouch, and to the Braunston, or Grand Junction canal.

What is called the Staffordshire canal, extends from the Grand Trunk to the river Severn; and is met by the Kingston canal, which reaches to Kington, in Herefordshire, so as almost to join the rivers Trent and Wye. It may be here observed, that in this description the grand courses of navigation are attended to, rather than the minute names and divisions of the canals.

Several inland navigations pass by Birmingham. The Union canal completes a course of forty-three miles and three-quarters, from Leicester to Northampton, whence the river Nen is navigable to the sea.

\* Cory's Plans, p. 26, 27, 28. The account of the Grand Trunk in Phillips, is very defective; he may here be referred to in general for the others. See also Hausman, 122.

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Another canal extends from Gloucester to Hereford : and the south of Wales presents several navigations of considerable length, particularly that from Brecon, in Brecknockshire, to Newport, in Monmouthshire.

The Severn is not only joined with the Trent and the Humber, by various courses of navigation, but is united with the Thames, by a canal extending by Stroud to Lechlade, a course of near forty miles.

Other canals branch out from the Thames in various directions : that of Oxford extends to the Grand Trunk, or rather joins the Coventry canal, after a course of ninety-two miles.

The Braunston, or Grand Junction canal, reaches from Brentford, on the Thames, or even from Paddington, and joins the Oxford canal at Braunston, in Northamptonshire, after a course of ninety miles. It is styled the Grand Junction, because it may be said to unite the numerous courses that pervade the central counties, with the capital of the kingdom.

On the south of the Thames, a canal proceeds from Reading to Bath ; and another from Weybridge to Basingstoke ; and a third from Weybridge to Godalmin.

A small canal or two have been executed in Devonshire. The Andover canal, in Hampshire, extends from Andover to Southampton water. Suffex presents two canals, that of Arundel, and that of Lewes.

MANUFACTURES AND COMMERCE.] The manufactures and commerce of England form so extensive a theme, that only a brief and fugitive idea of them can be here attempted. The earliest staple commodity of England was tin, a metal rarely found in other countries. The Phenicians first introduced it into commerce, at least five or six hundred years before the Christian æra ; and their extensive trade soon diffused it among the Oriental nations. The Romans, upon their conquest of these regions, did not neglect the source of wealth ; but as Cornwall was not conquered by the Anglo-Saxons till the reign of Athelstan, we know not whether the Cornish Britons carried on any considerable traffic in this commodity, though it be probable that it was at least exchanged for the wines of France. Yet even in the reign of John, the product was so inconsiderable, that the mines were farmed to Jews for 100 marks ; but in that of Henry III., they began again to yield a large profit, which has gradually increased\*.

Cornwall, like most countries that abound with minerals, presents an extensive aspect of desolation : a series of barren hills and bleak heaths pervades its whole length, and the violent winds from the sea check the vegetation of trees and shrubs. The tin mines are numerous, and of various descriptions. This metal is either found in the mass, in what are called *lodes* and *stools* ; or in grains, or bunches, in the rocks ; or detached in separate stones, called *shodes* or *strings* ; or in a course of such stones called the *beubeyl* or *living string* ; or in the pulverized shape of sand. After having been pounded in a mill, it is melted into blocks of 320 pounds weight. In the ore it is styled black tin, and is sometimes, though very rarely, found in a metallic state.

The singularity and importance of this first national staple, may apologize for this discussion ; but the abundance of the other topics will require more brevity. Wool had been regarded as a grand staple of England, as early as the twelfth century, but was chiefly exported in a crude state, till Edward III. encouraged settlements of Flemish manufacturers. Wool soon became the standard of private property, and the prime article

\* Borlase's Cornwall.



of commerce. Taxes and foreign subsidies were estimated by sacks of this commodity\*. Great quantities of raw wool continued to be exported to the Netherlands and Hanse Towns; but in the reign of Elizabeth it began to be chiefly manufactured at home, and the exportation of woollen cloths was then valued at a million and a half annually. The exportation of raw wool was at length prohibited; and the woollen fabrics preserve great importance, though they no longer attract such particular regard, amidst the exuberance of English manufactures.

In recent times the manufactures of iron and copper, native minerals, have become great sources of national wealth; nor must the new and extensive exportation of elegant earthen-ware be forgotten. The cotton manufacture is diffused far and wide, forming a grand source of industry and prosperity. That of linen, except of sail-cloth, is not much cultivated in England. The manufactures of glass and fine steel, clocks, watches, &c. are deservedly eminent and extensive. As the nation is indebted to Wedgewood for converting clay into gold, so to Roydell for another elegant branch of exportation, that of beautiful prints.

Besides manufactured articles, England exports a number of native products too numerous to be here mentioned.

The English manufactures have been recently estimated at the annual value of 63,600,000*l.* and supposed to employ 1,585,000 persons†. Of these, the woollen manufacture is supposed to yield in round sums, 15,000,000*l.* the leather 10,000,000*l.* the iron, tin, and lead 10,000,000*l.* the cotton 9,000,000*l.* The other chief manufactures, which yield from 1 to 4,000,000*l.* may be thus arranged, according to their consequence; steel, plating, &c. copper and brass, silk, potteries, linen and flax, hemp, glass, paper.

The commerce of England is, at the present period, enormous, and may be said to extend to every region of the globe. The trade with the West Indies is one of the most important, and that with the East Indies alone, would have astonished any of the celebrated trading cities of antiquity.

From the States of North America, are chiefly imported tobacco, rice, indigo, timber, hemp, flax, iron, pitch, tar, and lumber: from the West Indies, sugar, rum, cotton, coffee, ginger, pepper, guaiacum, sarsaparilla, mancinella, mahogany, gums, &c. From Africa, gold dust, ivory, gums, &c. From the East Indies and China, tea, rice, spices, drugs, colours, silk, cotton, salt-petre, shawls, and other products of the loom. From our remaining settlements in North America, are imported furs, timber, pot-ash, iron; and from the various states of Europe, numerous articles of utility and luxury.

The annual income of Great Britain was estimated in 1799 by Mr. Pitt at 102,000,000; and including the money, of which the estimate is far from certain, the whole capital of Great Britain may perhaps be calculated at more than one thousand two hundred millions.

In the year 1797, the amount of the exports, according to Custom-house accounts, was 28,917,000*l.* and of the imports, 21,013,000*l.* yielding, as is supposed, clear profits on foreign trade, to the amount of at least 10,000,000*l.* The number of merchant vessels amounts probably to 16,000; and it is calculated that 140,000 men and boys are employed in the navigation.

\* Campbell's Political Survey, vol. ii. p. 251, 252. A work opulent in materials, but of most tedious and uncouth execution.

† Mr. Gressler in the Monthly Mag. January 1801.

## CHAPTER IV.

## NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE climate of Great Britain is perhaps more variable than that of any other country on the globe, as the vapours of the Atlantic ocean are opposed to the drying winds from the Eastern continent. The Western coasts, in particular, are subject to frequent rains : and the eastern part of Scotland is of a clearer and dryer temperature than that of England. The humidity of the climate, indeed, clothes the delicious vales and meadows with a verdure unknown to any other region : but is injurious to the health of the inhabitants, by causing colds and catarrhs, the frequent sources of more deadly disorders.

In consequence of the mutability of the climate, the seasons themselves are of uncertain tenour, and the year might more properly be divided into eight months of winter, and four of summer, than into any theoretic arrangement, originating in the southern latitudes. What is called the Spring dawns in April, commonly, indeed, a mild month ; but the eastern winds, prevalent in May, seem commissioned to ruin the efforts of reviving nature, and destroy the promise of the year. June, July, August, and September, are usually warm summer months ; but a night of frost is not unknown, even in August, and sometimes a cold East wind will blow for three days together ; nor, of late years, are summers unusual of almost constant rain \*. The winter may be said to commence with the beginning of October, at which time domestic fires become necessary ; but there is seldom any severe frost till Christmas, and January is the most stern month of the year. Yet, as our summers often produce specimens of winter, so now and then gleams of warm sunshine illuminate the darker months, though rarely amounting to what the French call *un été de St. Martin*, or Martinmas summer. March is generally the most unsettled month of the year, interspersed with dry frost, cold rains, and strong winds, with storms of hail and sleet.

**FACE OF THE COUNTRY.]** A chief step to the study of Geography consists in the knowledge of what may be termed the physiognomy of the country ; yet has no province in this science been so completely neglected. We have even maps of Scotland and Switzerland, without mountains, and maps of China without canals. The chief features of any country are its hills, vales, and rivers ; and of a maritime state, the sea-coast. Mr. Pennant, in his *Arctic Zoology*, has given an admirable description of part of the English shores, which shall here be abbreviated, with an alteration in the arrangement, as he chooses to begin with the Straits of Dover.

From the mouth of the Tweed to Bamborough, extends a sandy shore ; and the most remarkable object is Lindesfarn, or Holy Island, divided from Northumberland by a level, which is dry at low water, but out of which the flowing tide oozes suddenly, to the terror and peril of the un-

\* The summer of 1800 was remarkable for dryness and warmth, scarcely any rain falling from the 6th of June to the 20th of August, when a thunder-storm succeeded.

wary traveller. From Bamborough Castle, to Flamborough Head, are mostly low cliffs, of lime-stone, and other materials; and at Sunderland, of a peculiar stone used in building, and which seems the work of marine insects. Scarborough stands on a vast rock, projecting into the waves; but Flamborough Head is a far more magnificent object, being formed of lime-stone, of a snowy whiteness and stupendous height, visible far off at sea. Grand caverns open on the north side, "giving wide and solemn admission, through most exalted arches, into the body of the mountain, together with the gradual decline of light, the deep silence of the place, unless interrupted by the striking of the oar, the collision of a swelling wave against the sides, or the loud flutter of the pigeons, affrighted from their nests in the distant roof, afford pleasures of scenery which such formations as this alone can yield. These also are wonderfully diversified. In some parts the caverns penetrate far, and end in darkness; in others are pervious, and give a romantic passage by another opening, equally superb. Many of the rocks are insulated, of a pyramidal form, and soar to a great height. The bases of most are solid, but in some pierced through and arched. All are covered with the dung of the innumerable flocks of migratory birds, which resort here annually to breed, and fill every little projection, every hole, which will give them leave to rest\*."

Hence to the Humber are commonly clay cliffs; and near Spurnhead, amber is sometimes found. The extensive coast of Lincolnshire is flat, and, according to Mr. Pennant's opinion, has been gained from the sea; though, in some parts, the sea has in its turn invaded the land, and the remains of a forest are visible under the waves. The county of Lincoln, and part of six others, are the low countries of Britain; and the coast is distinguishable by churches, not by hills. The shores of Norfolk and Suffolk present sometimes loamy or clayey precipices, sometimes hillocks of sand, and sometimes low and flat spaces. Hunstanton-cliff rises to the height of about eighty feet, composed of chalk and friable stone, resting on a base of what is called iron-coloured pudding stone, projecting into the sea. The coast of Essex is generally low; but, to the south of the Thames, arise continued cliffs of chalk, with layers of flint, resembling masonry. The north Foreland is a lofty, chalky promontory; and the Cliffs of Dover are known to every reader of Shakespeare.

It is to be regretted that Mr. Pennant did not extend his animated description to the southern and western coasts: cliffs of chalk and clay are interspersed with flat gravel, till the island of Portland presents its bold rocky front. The western shores abound with granite, slate rocks, and lime-stone.

**SOIL AND AGRICULTURE.]** The soil and agriculture of England are topics which have recently been illustrated in such a multiplicity of meritorious works, that the subject labours under the abundance of the materials. A few very general remarks must here suffice. The soil is greatly diversified, but in general fertile; and in no country is agriculture more thoroughly understood, or pursued in a grander style, except, perhaps, in Flanders and Lombardy. The nobility and gentry mostly residing upon their estates in summer, often retain considerable farms in their own hands, and practise and encourage every agricultural improvement. The writings of Mr. Young, the institutions in the west, and the Board of Agriculture, recently erected, have contributed to diffuse a wide and lasting knowledge of this interesting branch. The intermixture of the green

\* Pennant's Arctic Zoology, vol. i. p. xv.

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\* First Report  
† Lord Orford

crops with those of grain, the use of turnips, the irrigation of meadows, the regular substitution of crops appropriated to the state of the land, the art of draining conducted on scientific principles, may be mentioned among the recent advances of knowledge; nor must the improvements in the breed of sheep and cattle, introduced by Bakewell and others, be forgotten, though their utility to the consumer be doubtful.

Amidst such topics of just exultation, it is mortifying to reflect upon two circumstances, the deficiency of a proper supply of grain, and the vast extent of waste lands in this industrious country. The cultivated acres in England and Wales are computed at upwards of 39,000,000, while those uncultivated are 7,888,777. Of these it is supposed that not above half a million is wholly unimprovable, and perhaps a million is only fit for plantations, while of the remainder one quarter is fit for tillage, and three-fourths for meadow and upland pasture \*.

Horticulture, or the art of gardening, is also pursued in England with great assiduity and success. The large supply of the capital in vegetables and fruits, and the high prices given for early produce, occasion such a spirit of cultivation, that each acre thus employed is supposed to yield about 120% annually, the yearly consumption in the metropolis being computed at more than 1,000,000%. Of ornamental gardens, laid out with a just attention to the beauties of nature, and free from the uncouth affectations of art, England is deservedly regarded as the parent country †.

RIVERS.] But the rivers and mountains of a country constitute its most important features; and, without just delineations of them, the geographical portrait cannot boast much truth in resemblance. England is intersected by four important rivers; the Severn, the Thames, the Humber, and the Mersey. The Severn rises from the mountain Plinlimmon, and, after an easterly course to Shrewsbury, bends its progress almost south to Gloucester, whence it flows south-west into the Bristol Channel, a progress of about 150 miles, navigable as far as Welch-pool. Its chief tributary streams are the Northern and Southern Avons, the Teme and the Wye †.

The Thames originates in Cotswold-hills, Gloucestershire; and maintains a south-easterly direction, to its egress into the German ocean, after receiving the Cherwell, the Teme, the Kennett, another Wye, the Mole, and Lee. The Medway flows into the estuary of the Thames, as the Wye into that of the Severn. The course is computed at 140 miles, navigable to Cricklade §.

The Humber is a name almost confined to a large estuary, which receives many considerable rivers that fertilize the central parts of England. Of these the Trent is the most important, which rises at New-pool, in Staffordshire, and, proceeding north-east, enters the Humber, after a direct course of about 100 miles, being navigable to Burton in Staffordshire. The other principal rivers that issue into the Humber are the Dun, a navigable stream which runs by Doncaster; the Aire navigable to Leeds, and the Calder navigable to Halifax, both singularly useful in transporting the woollen manufactures; the Warf, navigable to Tadcaster; and the noble river Ure, or Ouse, which runs by York, and forms another grand branch of the Humber, navigable to Rippon; nor must the Derwent be omitted, which is navigable to New Malton; nor, though last and least, the Hull. The Humber may be regarded as the stem of a venerable oak,

\* First Report of the Committee of the House of Commons, p. 22.

† Lord Orford on Modern Gardening.

‡ Campbell, l. 146.

§ Ibid. l. 139.

which, as usual with that tree, spreads its chief branches in a horizontal direction.

Though the Mersey present a grand estuary, its course is not of great extent. It arises in the West Riding of Yorkshire, and runs to the south-west; but the estuary bends towards the north. The direct course is not above fifty miles; and is navigable to Stockport: as the Irwell to near Manchester, and the Weever to near Northwich, and the mines of rock-salt.

In briefly describing the other navigable rivers of this kingdom, it may be proper to return to the Severn, and, proceeding south-west, pursue the outline of the coast. The Avon is navigable to Bath, the Perrot to Ilchester, the Tone to Taunton, the Taw to Barnstaple, and another branch to Biddeford: the Camil of Cornwall, to Wedbridge, while the Plym, Dart, and Ex, can also be pervaded to a considerable height. Another Avon is navigable to near Salisbury, the Itchyn to Winchester, the Arun to Arundel, the Ouse to Lewes: the Rother, which forms the haven of Rye, is yet navigable, though fallen in fame. The Stour admits boats even to Canterbury; but the Medway presents a navigable stream as far as Tunbridge. On the north of the Thames, the Lee is navigable to Bishop's Stortford and Hertford: the Crouch conveys boats from the sea to Hull-bridge in Essex; the Black-water to Chelmsford, and another branch to Colchester. The Stour is navigable to Sudbury; the Orwell to Stowmarket; the Deben to Woodbridge; the Yare and Waveney present access to Foulham, Norwich, and Bungay. Next is the estuary called the Wash, which receives the Ouse, the Nen, the Welland, the Witham; all streams of considerable navigation.

On the North of the Humber, the Tees admits vessels to Stockton; the Tyne to Newcastle. On the West, the Eden is navigable to Carlisle; the Lun or Loynes to Lancaster and Hornby; the Dee to Chester; the Conway to within two miles of Llanrwst; the Tivey to a little above the town of Cardigan. Milford Haven presents branches navigable to Haverford-west, and to near Wiston: and lastly, the Wye may be pursued as far as Hay in Brecknockshire.

In general it may be observed of the British rivers, that the length of their course is inconsiderable, when compared with that of the Continental streams. The length of the Thames, compared with that of the Danube, is only as 1 to 7, and with that of the Nile as 1 to 12. The Kian Ku of China, and the river of Amazons in South America, extend through a progress of more than fifteen times the length of that of the Thames. The rivers of the southern and middle parts of England present a striking contrast to those of the north; the former pursuing a slow and inert course over mud, between level banks, amid rich and extensive meadows; while the latter roll their clear torrents over beds of gravel, between elevated banks and rocky precipices; and even when verdant levels occur, the stream still retains its banks and beds of gravel.

**MOUNTAINS.]** The mountains form another grand feature of geography. They seldom appear single, but are either disposed in lines or ridges, called chains, or in anomalous clusters. When they can be arranged under the first form or denomination, as the Alps, for example, or the Pyrenees, they afford great clearness to geographical limits and descriptions. It is not, however to be conceived, that a chain of mountains forms one series, as delineated in small maps, for the leading summits diverge on both sides into extensive ribs, gradually melting into the champaign country. And the clusters, if accurately surveyed, will generally

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generally be found to present central elevations, whence smaller branches irradiate.

While Bennevis, the highest mountain in Scotland, is not much above one quarter of the height of Mont Blanc, the sovereign of the Alps, the English and Welsh summits aspire to heights still less considerable; Snowdon being only 3568 English feet above the sea, while Bennevis is 4387, or, by other accounts, 50. Wharn, or Wharnside, in Yorkshire, was estimated at 4050. Ingleborough at 5280 feet. A late accurate measurement has, however, reduced this latter to 2380 feet, and probably Wharnside ought also to be diminished in the same proportion.

Even at the present day, the geography of some parts of New Holland is better understood than that of some parts of Great Britain. There is not even a separate map of the English rivers, though France set an example of this kind, a century and a half ago; nor has there been any attempt to delineate the chains of mountains in England. The imperfection of the materials must therefore apologize for any errors or defects in the subsequent slight sketch. The mountains of Cheviot may be said to form a regular ridge, running from the south-west, where they join those of Galloway to the north-east. But there is a central ridge which pervades England from north to south, beginning at Gttsdale forest, 14 miles S. E. of Carlisle, and passing on the west of Durham and Yorkshire, where it contains mines of coal and lead. The chief elevations, such as Kelton-fell, Stanmore, Widehill-fell, Wildboar-fell, Bow-fell, Home-fell, Bunhill, &c. &c. arise on the western limits of Yorkshire. Cumberland and Westmoreland present many detached mountains, Skiddaw, &c. which can hardly be reduced to any distinct arrangement; but those of Craven, in the West Riding of Yorkshire, as Wharnside, Ingleborough, and Pennigent; and Pendle, on the east of Lancaster, belong to the central chain which proceeds south, through Derbyshire, still abounding with minerals and natural curiosities; but here it seems to terminate, spreading a little into Cheshire. A central chain of smaller elevation may be traced in a zigzag line, to near Salisbury, with two diverging and irregular branches on the east, one towards Norfolk, another into Kent, while a third runs south-west into Cornwall. To the first belong the hills of Gogmagog, in Cambridgeshire, &c. to the second the hills of Hampshire, Surrey, and Kent. Another upland tract of considerable elevation, called the Chiltern-hills, extends from Tring in Hertfordshire, to Henley in Oxfordshire. Malvern hills, in Worcestershire, deviate from the central ridge, while those of Cotswold, in Gloucestershire, may be regarded as a continuation of it. The hills of Mendip, Polden, Sedgemoor, Blackdown, in Somersetshire; the Tors and Wilds of Dartmoor, in Devon; and the hills and upland downs of Cornwall, extend this chain to the Land's End; and after passing this last rocky province, it expires in the islands of Scilly.

Wales is a country abundant in mountains, especially the northern provinces; but their orology remains indeterminate, and it would require the actual survey of an experienced engineer to reduce them to chains or groupings. To begin with the north, Snowdon commands the first attention, a mountain of eminent height and fame. The top is called Y Widdfa, or the conspicuous, forming almost a point, and presenting a view of the county of Chester, the mountains of Yorkshire, part of Scotland and Ireland, and the isles of Man and Anglesey\*.

\* Pennant's Journey to London, p. 170.



The stone that composes it is petrosilex and argillaceous schistus, large coarse crystals are often found in the fissures, and very frequently cubic pyrite, the usual attendants on Alpine tracts. From Snowdon, a line of mountains extends by the sea to Penllyn, a boundary of North Wales, whence issues the noble rivers Severn and Wye. Of these hills, Urrou Seth, Caer Idris, and Moel Vadau, are the most memorable. The hills on the east of North Wales are far from attaining such considerable elevation, and gradually decline to the hills of Shropshire, of which the Wrekin is one of the most noted.

A chain proceeds due south to near Cardiff in South Wales; it is of far inferior height, and a small branch diverges to the west, consisting of Cwm Cothy, Mynydd, Carreg, Brilley, and Cwm Kerrun-hills. On the east of South Wales are the hills of Herefordshire, the Black Mountain, Cusop-hill, Hargest, Stockley-hill, &c.

In the northern and western mountains and hills, chalk is unknown, while it forms a chief material of those of the south and east. An eminent naturalist observes, that a line drawn from Dorchester, in the county of Dorset, to the county of Norfolk, would form a boundary of the great chalky stratum which intersects the kingdom, none being found in any quantity to the north or west of that line\*. The northern mountains are mostly composed of limestone, sandstone, slate, or schistus, with mines of lead or coal; those of Derbyshire present vast masses of limestone, intersected with thick veins of toadstone, and numerous fossils and minerals, the consideration of which is reserved for a future article. The summit of Skiddaw presents white shivery slate, or argillaceous schistus; but some of the Westmoreland mountains contain siliceous schistus; and it is probable that granite may exist in those of Cheviot. The vast base of Ingleborough, near 30 miles in circuit, consists of limestone; on the east side full of shells to near the summit, which is of grit and sandstone-flag; the fossils, black and brown marble, thin slate, near Ingleton, rotten stone, or tripoli, and some lead ore†. And such is this chain to its termination; while further to the south the easterly elevations are of chalk; and those on the west, as Mendip hills in Somersetshire, are wholly calcareous. The granite begins at Dartmoor in Devonshire, and continues through Cornwall, where it occurs of various colours, the grey granite, or moor-stone; the red, or oriental; the white, the yellow, and the blueish, or pigeon-coloured‡. Near the Lizard and Mullion are rocks of serpentine and steatites, together with a decomposed granite, which is similar to the petunsi of China, and applied to the same purposes in the manufacture of porcelain.

The Welsh mountains abound in slate, horn-stone, and porphyry, with large masses of quartz. The Wrekin, about ten miles east of Shrewsbury, is chiefly composed of reddish chert, or petrosilex, with siliceous sand-stone, basalt, and a kind of granite||. The great coal district of Coalbrookdale rests on indurated clay, while that near Bristol is accompanied by black free-stone, and even the calcareous freestone near Bath is interspersed with numerous veins of coal. The Malvern hills, on the S.W. of Worcestershire, run N. and S. about ten miles, and afford many granitic rocks with chert and hornblende slates§. These few notices must suffice on the composition of the English mountains,

\* Pennant's Journey from Chester to London, p. 214.

† Guide to the Lakes, 265, 267.

‡ Pryce's Mineralogy of Cornwall. Maton's Western Tour, &c.

|| Townson's Tracts, p. 163.

§ Ibid. 216.

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**FORESTS.]** To the reader of poetry the word *forest* conveys the idea of a region replete with thick and tall woods, interspersed with romantic lawns and murmuring rivulets. But in England a forest is sometimes bare of trees, or not unfrequently only presents a few withered oaks; and the term is even applied to upland downs and heaths. Many of the forests were, even in the Anglo-Saxon times, esteemed royal demesnes; but the Norman monarchs were so much addicted to the chase, that upwards of sixty forests at one time appertained to the crown; of which the chief now remaining are the forests of Dean, in Gloucestershire; Sherwood, in Nottinghamshire; Windsor, in Berkshire; and the New Forest, in Hampshire. The royal forests constituting so large a part of the kingdom, subject to peculiar regulations, many grievances arose, till the Barons exacted from Henry III. the forest charter; in which several despotic laws were revoked, and more equity extended to the neighbouring proprietors and tenants.

**GENERAL SKETCH OF BRITISH BOTANY.]** Among the numerous species of vegetables which are natives of Britain, scarcely any are adequate to the sustenance and cloathing of man. Our frequent rains, our blasting winds, and the scanty portion to which we are stinted of the light and heat of the sun, deprive us entirely of those vegetable treasures, which, in the tropical climates, offer themselves in overflowing exuberance, to satisfy the wants and luxurious desires of their human inhabitants. The never-failing verdure of our plains and hills, covered with a rich carpet of grasses and papilionaceous plants, shews how admirably our country is qualified for the support of gramivorous quadrupeds; and we find accordingly that our ancient forests abounded in stags and roe-deer, as our cleared and cultivated lands do now with sheep and cattle.

The Flora, of Britain, though it cannot boast the most splendid and exquisite of vegetable productions, yet contains as great a variety of genera and species as any other country of equal extent. The investigation of indigenous plants is continually carrying on here with increasing ardour, and every year brings new accessions to our crowded ranks of native vegetables.

The first for importance and variety is the family of GRASSES. Almost every part of the country that is not under tillage is principally covered with grass. Under almost all the differences of soil and situation, we find the chief covering of the richest, as well as of the most barren tracts, made up for the most part of these plants; to these we are indebted for the luxuriant verdure of our pastures, for the close velvet carpeting of our downs and sheep-walks, and the more scanty cloathing of our mountainous districts. Twenty-seven genera, and a hundred and ten species of grass, are natives of our island, most of them of common occurrence in situations where they are found at all. None of them have been proved to be poisonous, either to man or beast; on the contrary, whether fresh or dried, they furnish a grateful food to all our domestic cattle. The most important grasses in meadows and pastures are the meadow fox-tail grass; two or three species of hair-grass, and meadow-grass; the cock's-foot fescue, and oat-grass. Other species are natives of marshes and wet places; these are generally the largest and most luxuriant; and if in quality they be somewhat inferior to the preceding, yet the defect is probably more than compensated by the quantity of herbage that they supply. Light sandy soils, especially the flat parts of the eastern and southern coasts, abound in grasses that are hardly to be met with

with in the interior of the island; the herbage of these affords a coarse and scanty pasture, and they are eminently distinguished from their kindred species by the length and strength of their creeping-roots. The inhabitants of Skey, and the other western islands of Scotland, manufacture them into durable ropes; and, while growing, they serve the very important purpose of binding together the loose sand, which otherwise would be drifted far up the country. Upon the sides and summits of our mountains are found a few grasses that do not appear elsewhere, mixed with some others of more general occurrence; as, however, in these bleak and elevated situations, covered with snow for some months in the year, and shrouded in clouds for the principal part of the remainder, it would be scarcely possible for these plants to bring their seeds to maturity, we observe in them a wise and striking deviation from the common course of nature. Like the rest of their tribe, they throw up flowering stems and bear blossoms; but these are succeeded not by seeds, but by bulbs, which in a short time vegetate, and are already furnished with a leaf and roots before they fall to the ground: all the viviparous grasses, except one (*Festuca vivipara*), if transplanted to a lower and warmer situation, accommodate themselves to their new climate, and produce seeds. Besides these there are others of a more hardy constitution, which appear to be the true natives of the mountains, and multiply their species by seed in the usual way\*.

Nearly allied to the grasses in general habit, are a number of species, natives of moors, bogs, and pools; these serve to give consistency to the deep mud or peat in which they are rooted, and, when young, afford a coarse pasture to sheep and cattle; several of them are used for matting, thatching, and for chair bottoms. The stately *Typha* (bull rush) is one of the principal ornaments of our fens and neglected pools, and the several species of cotton-grass enliven many a dreary mile of bog, by their gracefully pendent tufts of snowy white.

The Leguminous, or papilionaceous plants, so called from their winged blossoms, form a very important division in British botany. The herbage of all when fresh, and of many when dry, is a most grateful food to horses, cattle, and sheep; and several of them, as the clovers and vetches, are largely cultivated for this purpose. Many of this class are climbers, and adorn our thickets and hedges with elegant festoons of blossoms and foliage. Almost all the English papilionaceous plants flourish best in light calcareous soils, either rocky or sandy; and some of them, as the lady's finger, and sanfoin, may be reckoned certain indications of chalk or lime-stone.

The umbelliferous plants form another large class in the natural arrangement of British vegetables, consisting of about sixty species. The roots and seeds of those kinds which grow on dry, light soils, are frequently aromatic; those that are natives of marshes and moist meadows, are, for the most part, in a greater or less degree poisonous. The whole class, indeed, is a suspicious one; and excepting the fennel and celery, not a single native species is cultivated for the food of man or beast.

Perhaps the most splendid of all the herbaceous plants are the bulbous rooted, which, from their general resemblance to the lily, have obtained the name of Liliaceous; most of these, however, are natives of warmer climates; the sandy deserts about the Cape of Good Hope, and the shores of the Indian ocean, produce the most beautiful species. Of those which are found wild in England, there are only twenty-eight

\* The grass called *Florin* now attracts much attention, from its growth in cold and marshy situations, so that hay may be made at Christmas.

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species; and the greater number of these are of rare occurrence in a truly native state; the spring and autumnal crocus, the snow-drop, the snow-flake, the three kinds of Narcissus (including the daffodil), the fritillary, tulip, and lilly of the valley, are more familiar to us as garden plants, than as natives of our woods and pastures. The common ones of this class are Ramsons, a species of garlic, meadow saffron, and the beautiful and fragrant hare bell, or wild hyacinth, one of the principal ornaments of our groves and thickets, even at a time when they are profuse of beauties.

Our native fruits belong, for the most part, to the class of Rosaceous plants; such as the wood-strawberry, the bullace and black-thorn, the hawthorn, crab, and mountain ash; the common bramble, or black-berry, the raspberry, stone-bramble, and cloud-berry. The cherry, the medlar, the service, and pear trees, whose fruit, when wild, is of so little account, and of such value when improved by cultivation, belong also to this class.

One of the largest of the natural classes of English vegetables is that of the radiated or compound flowered plants (including about 120 species). It is rather remarkable, that out of so large a number of plants, many of which are very abundant and of great size, only a single one, the *Tragopogon porrifolius* (falsafy), should be applied to the sustenance of man, and not even a single one should be cultivated for the use of cattle; more especially as the *Lactuca virosa* (strong-scented lettuce) is the only species possessed of deleterious properties. Most of this class have an ungrateful bitter taste, and the succulent ones contain a white milky juice, of an acrid flavour. Of all our native vegetables they are the commonest, thriving by neglect, and multiplying under persecution: the farmer and gardener are unceasingly employed in their destruction, for they contribute little or nothing to the support of man and the larger quadrupeds; nor is the beauty of their appearance such as to obtain for them a place in the flower garden. The annual kinds, however, producing vast multitudes of seeds, and the perennial ones being furnished with long and deeply striking roots, there is no fear of their extermination; they occupy road sides, ditch banks, and all waste places that are incapable of cultivation, and seem peculiarly devoted to the sustenance of the granivorous birds by their seeds, and of numerous tribes of insects by their foliage. The sow thistle, hawk weed, burdock, thistle, cud-weed, coltsfoot, groundsel, dandelion, daisy, and yarrow, are the most commonly occurring genera.

Such of our trees and shrubs as have not been already mentioned, may be considered as forming a peculiar class, and one of great importance; it is naturally subdivided into the evergreen and deciduous.

The most valuable of our native evergreens are the box, the pine, the yew, and the holly; those of secondary consequence are the juniper and ivy; the spurge laurel; the cranberry; and those extremely ornamental plants, the *Vaccinium vitis idæa* (red whortle berries); and *Arbutus uva ursi* (bear-berry).

The deciduous timber-trees that are either aboriginal, or at least have been long naturalized to our soil, are the oak, the chestnut, and beech, all of which are *mast-bearing-trees*, or produce farinaceous oily nuts, the favourite food of hogs, and of many graminivorous quadrupeds; the birch, the alder, the horn beam, the aspen, the black poplar, and the aspen, bearing catkins; the sycamore, the maple, and the ash; the lime, the elm, and wych hazle. A middle station between the timber-trees and shrubs is occupied by the hazle, and the numerous species of

of willow. The pulpy fruit bearing shrubs are the currant and gooseberry, the elder, the barberry, the bilberry, the cornel, or dogwood, the buckthorn, the guelder rose, and the mezerion; the four first are wholesome and grateful to the palate, the rest are either insipid or noxious.

The ferns comprise a number of elegant plants that grow in moist, shady, and uncultivated places, the uses of which have been but little inquired into; about forty-four species are natives of Britain; the roots of most abound in a mild sweetish mucilage, which in times of scarcity has been resorted to for nutriment; the larger and commonest kinds, such as common fern or brakes, are collected and burnt for the potash which is yielded from their ashes; the *Equisetum hyemale* (shave grass) is much used by turners and cabinet-makers, as a fine file to smooth their work with.

The last class of English vegetables that we shall mention, is that of the marine Algæ, or sea weeds. Between two and three hundred species are found upon our own shores; the more tender and gelatinous kinds are eaten either raw or boiled; and the rest on those rocky parts of the coast, where they can be collected in great quantities, are burnt into kelp for the use of the soap-boilers and glass-makers.

ZOOLOGY.] Mr. Pennant, in his British Zoology, has treated this subject at due extent, and with his usual ability. The nature of this work will only admit of a few imperfect notices. Of quadrupeds, that celebrated author enumerates twenty genera, from the horse down to the seal and bat. The birds extend to forty-eight, the reptiles to four, and the fish to forty genera, besides the crustaceous and shell fish.

That noble and useful animal, the horse, is found in England of many mingled breeds, while most other kingdoms produce only one kind\*. Our race-horses descend from Arabian stallions, and the genealogy faintly extends to our hunters. The great strength and size of the English draught-horses are derived from those of Germany, Flanders, and Holstein; and other breeds have been so intermingled, that native horses may be found adapted to every purpose of pomp, pleasure, or utility. Those of Yorkshire are particularly celebrated for their spirit and beauty; and the grooms of that county are equally noted for their skill in the management of this valuable animal.

The indigenous horned cattle are now only known to exist in Neidwood forest, in Staffordshire; and at Chillingham castle, in Northumberland. They are long-legged and wild like deer, of a pure white colour, with black muzzles, ears, and tails, and a stripe of the same hue along the back. The domesticated breeds of our cattle are almost as various as those of our horses; those of Wales and Cornwall are small, while the Lincolnshire-kind derive their great size from those of Holstein. In the North of England we find kyles, so called from the district of Kyle, in Scotland; in the South we find the elegant breed of Guernsey, generally of a light brown colour and small size, but remarkable for the richness of their milk. Of late years Mr. Bakewell, and others, have brought the breeding of cattle and sheep to a regular system, but to the great injury of good beef and mutton.

The number and value of sheep in England may be judged from the ancient staple commodity of wool. Of this most useful animal several breeds appear, generally denominated from their particular counties or districts; those of Herefordshire, Devonshire, and Cotswold downs, are

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\* Pennant's Zoology, vol. i. p. 2.



noted for fine fleeces, while the Lincolnshire and Warwickshire kind are remarkable for the quantity. The Teesdale breed of the county of Durham, though lately neglected, continue to deserve their fame. The wool is beautiful, but the length of their legs lessens their value in the eyes of the butcher. The mutton of Wales, on the contrary, is esteemed, while the wool is coarse, yet employed in many useful and salutary manufactures.

The most laudable exertions have lately been made by the Board of Agriculture, and by individuals, for the improvement of the English fleece.

The goat, an inhabitant of the rocks, has, even in Wales, for the most part, yielded to the more useful sheep; that country being, like Scotland, more adapted to the woollen manufacture. The breeds of swine are various and useful.

England also abounds in breeds of dogs, some of which were celebrated even in Roman times; nor have their modern descendants, the mastiff and bull-dog, degenerated from the spirit and courage of their ancestors.

Of our savage animals the most fierce and destructive is the wild cat, which is three or four times as large as the domestic, with a flat broad face, colour yellowish white, mixed with deep grey, in streaks running from a black list on the back; hips always black, tail alternate bars of black and white; only found in the most mountainous and woody parts. The wolf has been long extinct, but the fox abounds.

The chief of our birds of prey are, the great eagle, idly called the golden, sometimes found on Snowdon; the black eagle has appeared in Derbyshire; the osprey, or sea eagle, seems extinct in England. The peregrine falcon breeds in Wales; and many kinds of hawks in England. An enumeration of the other birds would be superfluous. The nightingale, one of the most celebrated, is not found in North Wales, nor any where to the north, except about Doncaster, where it abounds; nor does it travel so far west as Devonshire and Cornwall\*. Our poultry seem to originate from Asia; our peacocks from India; our pheasants from Colchis; turkeys from North America; the guinea-fowl are from Africa. Our smallest bird is the golden-crested wren, which sports on the highest pine trees; and our largest the bustard, some of which weigh twenty-five pounds, and are found in the open countries of the south and east. The most useful of our water-fowl is the mallard, or wild-duck, which is chiefly caught in the fens of Lincolnshire; the numbers sent to the capital almost exceed credibility.

The reptiles are frogs, toads, several kinds of lizards; of our serpents, the viper alone is venomous; other kinds are, the snake, sometimes found four feet in length; and the blind-worm, seldom exceeding eleven inches.

Of fish, the whale but seldom appears near the English coasts; the porpoise, and others of the same genus, are not uncommon. The basking shark appears off the shores of Wales. Numerous are our edible sea fish. Some of the most celebrated are the turbot, doree, soal, cod, plaice, smelt, and mullet. The consumption of herrings and mackerel extends to most parts of the kingdom; but pilchards are confined to the Cornish coasts. Our chief river fish are the salmon and the trout, which are brought from the northern parts in prodigious numbers, generally packed in ice. It is said that not less than 30,000 salmon are brought from one river, the Tweed, to London, in the course

\* L'ennant's D. Z. l. 365.



of a season. The lamprey is chiefly found in the Severa, the charr in the lakes of Westmoreland.

The lobster is found on most of the rocky coasts, particularly off Scarborough; but there is a great supply from the Orkneys, and the English oysters maintain their Roman reputation. The green, from Colchester in Essex, and the juicy white, from Milton in Kent, have the chief reputation.

**MINERALOGY.]** It seldom or never happens that countries, abundant in the production of agriculture should at the same time, present an opulent mineralogy. Yet England is far from being deficient in this respect.

The tin mines in Cornwall have been already mentioned; and they are not only venerable from their antiquity, but are, it is supposed, the richest of the kind in the world. That kind of silver termed by mineralogists horn ore, is also found in that district; but the profound secrecy observed in working it forbids any investigation of the amount. The Huel rock boasts of what is called bell-metal ore; and of wolfram.

Cornwall also produces copper at Redruth, Alston, and the Land's End. The same metal is found in Yorkshire and Staffordshire; but no where in such abundance as in the Parrys mountain, in the north-west of Anglesea\*. Instead of descending in veins through various rocky strata, the usual form of metallic ores, it here forms a prodigious heap, and is worked in the manner of a quarry. The mountain is almost bare of shrubs or grass, and is covered with aluminous slate, under which in grey chert, is the ore, being chiefly the yellow sulphuret, of very variable richness. This valuable mine was discovered about thirty years ago.

Lead is found in the Mendip hills, Somersetshire; which also produce calamine and manganese. The lead mines in Derbyshire are well known, not only for that metal, but for the beautiful veins of fluor which accompany it, and which is manufactured into several ornamental articles. In general, the northern central ridge of mountains abounds with lead ore. The lead mines of Alston, on the eastern verge of Cumberland, employ about 1100 men.

No metal is so widely diffused, through the globe as iron; and England not only contains excellent mines, but excels all nations in the variety of fabrication. The most remarkable mines of iron are those of Coalbrookdale, Shropshire, Dean forest in Gloucestershire, with some in the north of England, particularly near Ulverston, in Lancashire.

Among the minor metals, zinc, in the form of lapis calaminaris, and blende, is found in Derbyshire, Denbighshire, Cornwall, and other regions. Nickel and arsenic sometimes appear in Cornwall; and recently, what is called menachanite. But one of the most important of this kind is plumbago, or black lead, which is found in the ridge of Borrowdale, near Kewic, in Cumberland; the mine is only opened at certain intervals of time.

Gold has been discovered in various quarters of England; but the metal has never recompensed the labour and expence. The real gold mines of England are those of coal, found in the central, northern, and western parts, but particularly in the northern, around Newcastle. The coals of Whitehaven and Wigan are more pure; and the cannel coals of Lancashire are so beautiful, that they are suspected by some to have constituted the *gagates*, or jet, which the ancients ascribed to Britain. A singular species of coal is found in Bovey heath, Devonshire, resembling

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wood impregnated with bituminous matter. Turf, or peat, is common, even in Hampshire, and other southern counties.

The mines of rock salt, in Cheshire, must not be omitted. They appear to have been known to the Romans. Leland has described them in the time of Henry VIII. ; nor were they unknown even in the Saxon periods. Those of Northwich are the most remarkable : at Namptwich and Middlewich are only salt springs : and others occur at Droitwich, in Worcestershire, and Weston, in Staffordshire. The immense mines on the south side of Northwich were discovered about the beginning of this century. The quarries, with their pillars and crystal roof, extending over many acres, present a beautiful spectacle ; the stratum of salt lies under a bed of whitish clay, at the depth of about forty yards. The first stratum is about twenty yards thick, so solid as to be blasted with gunpowder ; this salt resembles brown sugarcandy. Next is a bed of hard stone, under which is a second stratum of salt, about six yards thick ; in some parts brown, in others as clear as crystal. The Witton pit is circular, 108 yards in diameter, the roof supported by twenty-five pillars, each containing 294 solid yards of rock salt ; the whole covering near two acres of land. The annual produce of rock salt at Northwich has been estimated at 65,000 tons ; of which about two thirds used to be exported to Flanders and the Baltic\*.

Marbles, and free-stone, or fine limestone, of various colours and textures, also occur ; the most celebrated of the latter are those of Portland, Purbeck, &c. Fine alabaster appears in Derbyshire ; fullers-earth in Berkshire, and some other counties.

MINERAL WATERS.] Nor is England less productive of mineral waters, of various properties and descriptions. Those of Bath have been celebrated since the Roman times. Next to that place of fashionable resort may be mentioned the hot-wells of Bristol, those of Tanbridge in Kent, and of Buxton and Scarborough in the North. Those of Cheltenham in Gloucestershire have been esteemed beneficial in scorbutic cases ; but to enumerate the springs of inferior note would be infinite, as chalybeate wells, at least, must occur in almost every county, and new waters are daily starting into celebrity.

NATURAL CURIOSITIES.] Among the natural curiosities, those of Derbyshire have always been esteemed the most memorable. Hobbes and others have long since celebrated the wonders of the Peak, a mountain not equal in height to those of Wales, or the more northern part of England, but perforated with such vertical chasms, and such surprising caverns, as have deservedly excited admiration.

Other remarkable caverns are found in the northern ridge of English mountains. In the vale of Kingdale, on the western extremity of Yorkshire, is Yordas cave, which presents a subterraneous cascade. But the most noted is Wethercot cave, not far from Ingleton. It is surrounded with trees and shrubs, is in form like a lozenge, divided by an arch of limestone ; passing under which you behold a large cascade, falling from a height of more than twenty yards ; the length of this cave is about sixty yards, the breadth thirty.

The lakes of Cumberland form another grand scene of attraction : but it would be idle to attempt to depict, in a few words, beauties which have been described by so many authors, and particularly by the glowing pencil of a Gray. Suffice it to observe, that the three most celebrated lakes

\* Pennant's Journey from Chester to London, p. 26. Gough's Camden, ii. 436. Aikin's Manchester, 427.

are those of Conistone, Windermere, and Derwent. The beauties of the first have been compared to the delicate touches of Claude; the noble scenes of the second, to those of Poussin; while Derwent has much of the wildness of Salvatore Rosa: but most travellers esteem Ulswater to be the most truly sublime.

The mountainous regions of Wales may well be supposed to present many natural curiosities; and the Parrys mine in Anglesea is in itself a surprising object. The cataracts in Cumberland are rivalled by a remarkable fall of the Tees, on the west of the county of Durham, over which is a bridge suspended by chains, seldom passed but by the adventurous miners; nor must Asgarth force, in Yorkshire, be passed in silence.

The submarine relics of a forest, on the coast of Lincolnshire, may be deservedly classed among the most remarkable natural curiosities. On the N. W. side of the Mendip hills is a considerable cavern, at the bottom of a deep ravine, near the little village of Berrington, or Burrington. Here are a number of human bones, gradually incorporating with the lime-stone rock; there being a continual dripping from the roof and sides, which deposits a stalactitic sediment on the bones. Several nodules contain perfect human skulls. At the farther end, where the height is about fifteen feet, there is a large conic stalactite, which nearly meets a pillar rising from the floor. This cave was discovered in 1796 and as the matter increases so fast, it is conjectured that it would soon have been closed up\*. Hence it is probable that these bones are of no remote antiquity, and may perhaps be the remains of some wretches who had here taken shelter from the cruelty of Jefferies, after the insurrection of Monmouth.

### ENGLISH ISLES.

In the Southern, or English Channel, first appears the Isle of Wight, by the Romans called *Vedis*, by the Saxons *Vihlond*, of an oval form, about twenty miles in length, and twelve in breadth. This isle is fertile and beautiful, and decorated with many picturesque villas; the principal haven is that of West Cowes. The chief mineral products are pipe clay, and fine white sand, for the fabrication of pure glass; and at Alum Bay, on the north side of the Needles, are found considerable quantities of native alum†. One of the most remarkable buildings is Carisbrook castle, where Charles I. was imprisoned; it was built soon after the conquest, as appears from the book of Doomsday. The lofty white rocks styled the Needles, seem to have been disjoined from the western extremity of the isle by the violence of the waves. There were formerly three; but about the year 1782, the tallest, which rose about 120 feet above the low-water mark, was overthrown, and totally disappeared‡.

At the distance of about seventy miles from Wight, to the S. W. arises the little isle of Alderney, off the Cape la Hogue; which is afterwards followed by the more important isles of Jersey and Guernsey; Sark being a small isle interposed between the two latter. Jersey, the chief, is about twelve miles in length, and six in breadth, a well watered and fertile island, producing excellent butter and honey. The winters are milder, but more windy than those of England. The northern side of the island is high, but the southern subsides into pleasant vales, covered with orchards. The remarkable places are the two towns of St. He-

\* Transact. of the Linnæan Society, vol. v.

† Worsley's Isle of Wight, p. 274.

‡ Gough's Camden, i. 143.

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lier and St. Aubin, both standing on a bay, opening to the south ; and the castle of Mont Orgueil. The inhabitants of Jersey are computed at 20,000, of whom 3000 are capable of bearing arms. In January 1781, St. Helier was surprized by 800 French, under Rullicourt, who was killed, while Major Pierfon fell on the side of the English ; his valour being commemorated by paintings and prints, and by a handsome monument in the church of St. Helier. Guernsey is a verdant isle, though the soil be hilly, and barren of wood. The only town is that of Port St. Pierre\*. Alderney is a small isle, with a town, and about 1000 inhabitants in all. Sark has about 300 inhabitants†.

Returning to the English shore, we first descry Eddystone light-house, beat by all the fury of the western waves. This edifice has repeatedly been overthrown ; but the present erection, by Mr. Smeaton, composed of vast masses of stone, grooved into the rock, and joined with iron, promises alike to defy accidental fire, and the violence of the ocean, though the waves sometimes wash over the very summit in one sheet of foam.

About thirty miles to the west of the Land's End appear the Isles of Scilly, which have been idly deemed the Cassiterides of the ancients. This cluster is said to consist of 145 isles, covered with grass or moss, besides innumerable dreary rocks. The largest isle is that of St. Mary, which is about five miles in circuit, and has a castle and garrison : inhabitants about 600. That of St. Agnes is rather fertile : inhabitants about 300. The whole inhabitants of the Scilly Isles are computed at about 1000. The cattle and horses small ; but sheep and rabbits thrive well. Considerable quantities of kelp are prepared amid these rocks ‡.

On turning to the north, first appears the little isle of Lundy, situated in the Bristol Channel, about three miles long, but not a mile in breadth, with about 500 acres of good land, some rivulets, and a castle. It was formerly a noted retreat for pirates.

Some small isles lie off the Welch coast of Pembroke-shire and Caernarvon, such as Caldy, Skomar, Bardsey, and others : but the isle of Anglesea deserves more attention, being the Mona of Tacitus. Anglesea is about twenty-five miles in length, and eighteen in breadth. The chief towns are Newburgh, Beaumaris, and on the western extremity, fronting Ireland, Holyhead. This isle is so remarkably fertile, that the Welsh have emphatically styled it the mother of Wales ; and of late has been also productive of rich copper found in the Parrys mountain, in the N. E. part of the island, near Amlwch, of which an account has been given in treating of the English minerals. Beaumaris is a large town, with a castle built by Edward I. Newburgh is a corporation of smaller moment. Holyhead, originally a fishing town, has become of consequence, by the Irish packets which pass daily, the average time being twelve hours.

The last English isle worth mention is that of Man ; it is about thirty miles in length, and fifteen in its greatest breadth. In the midst is a high mountain, called Snafel. The chief mineral productions are black marble, slate, lime stone, lead, copper, and iron. Man is also well stored with black cattle, and sheep ; and the population has of late years greatly increased. This isle was seized by the Norwegians, along with the Western Isles of Scotland, in the ninth century ; and remained under these lords an independent kingdom, till the thirteenth century, when it fell with those islands to Alexander III. of Scotland. The Scots were expelled in the reign of Edward II., but the title continued dubious ; for in the 15th

\* Guernsey is chiefly remarkable for its small breed of cattle.

† Gough's Camden, iii. 753.

‡ Ibid. iii. 753.

and 16th centuries, Alexander and John, dukes of Albany, styled themselves lords of Man, and interwove the arms in their heraldry. In the reign of Henry IV. the kingdom of Man was conferred on the Stanleys, afterwards earls of Derby, and latterly passed to the family of Athol, by marriage. This petty sovereignty has been since purchased, and annexed to the English crown. The chief places are Douglas and Castletown, and there are some considerable villages.

There are also some small islands off the eastern coast, as Lindisfarn, and Coquet island, near the mouth of the river of that name, in Northumberland. The Isle of Thanet is now joined to the land of Kent; but Sheppey remains a pleasant and interesting isle.

## SCOTLAND.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names.—Extent.—Original Population.—Progressive Geography.—Historical Epochs.—Antiquities.*

SCOTLAND was first discovered to the Romans by Agricola; and, in the works of Tacitus, the northern part of Britain is for the first time distinguished from the southern, by the special and repeated appellation of Caledonia, a name said to be derived from a Cymraig word, signifying woodlands, forests, or perhaps rather a mountainous country; for the ancients often blended the ideas of forest and mountain.

The names *Caledonia*, and *Caledonians*, continued to be used till the Roman power expired. Bede, the father of English history, calls the inhabitants of the country by the name of *Picti*, which had also been used by the later Roman writers as synonymous with that of *Caledonii*. The country he denominates *Provincia Pictorum*, the province or region of the Picti. This new name seems to have been native (*Piks*, or *Pehts*); and to have originated from a country so styled, in the south of Norway, whence this colony had arrived. The Saxon writers, and among them king Alfred, called the people *Peohts*, and the country *Pechtlond*.

These distinctions continued till the eleventh century, when the new name of *Scotia* was taken from Ireland, its former object, and applied to modern Scotland.

EXTENT.] That part of Great Britain called Scotland is about 260 miles in length, by about 160 as its greatest breadth; it extends from the 55th degree of latitude, to more than 58½. The superficial contents have been computed at 27,793 square miles, a little exceeding that of Ireland, and considerably more than half that of England. The population being estimated at 1,600,000, there will be only fifty-seven inhabitants for every square mile, a proportion of about one-third of that of Ireland. This defect of population arises solely from the mountainous nature of the country, amounting perhaps to one-half, little susceptible of cultivation.

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**DIVISIONS.]** The territory of Scotland is unequally divided into thirty-three counties, which are as follow, the number of inhabitants being from the enumeration of 1801 :

|                       |                             |   |   |   |         |
|-----------------------|-----------------------------|---|---|---|---------|
| Northern<br>Division. | Orkney                      | — | — | — | 46,844  |
|                       | Caithness                   | — | — | — | 22,609  |
|                       | Sutherland                  | — | — | — | 23,117  |
|                       | Ross                        | — | — | — | 52,291  |
|                       | Cromarty                    | — | — | — | 3,052   |
|                       | Inverness                   | — | — | — | 74,292  |
| Midland<br>Division.  | Argyle                      | — | — | — | 71,859  |
|                       | Bute                        | — | — | — | 11,791  |
|                       | Nairn                       | — | — | — | 8,252   |
|                       | Murray, or Elgin            | — | — | — | 26,705  |
|                       | Banff                       | — | — | — | 35,807  |
|                       | Aberdeen                    | — | — | — | 123,082 |
|                       | Mearns, or Kincardine       | — | — | — | 26,349  |
|                       | Angus, or Forfar            | — | — | — | 99,127  |
|                       | Perth                       | — | — | — | 126,366 |
|                       | Fife                        | — | — | — | 93,743  |
|                       | Kinross                     | — | — | — | 6,725   |
|                       | Clackmannan                 | — | — | — | 10,858  |
| Southern<br>Division. | Stirling                    | — | — | — | 50,825  |
|                       | Dumbarton                   | — | — | — | 20,710  |
|                       | West-Lothian, or Linlithgow | — | — | — | 17,844  |
|                       | Mid-Lothian, or Edinburgh   | — | — | — | 122,954 |
|                       | East-Lothian, or Haddington | — | — | — | 29,086  |
|                       | Berwick                     | — | — | — | 30,621  |
|                       | Renfrew                     | — | — | — | 78,056  |
|                       | Ayr                         | — | — | — | 84,306  |
|                       | Wigton                      | — | — | — | 22,918  |
|                       | Lanark                      | — | — | — | 146,699 |
|                       | Peebles                     | — | — | — | 8,735   |
|                       | Selkirk                     | — | — | — | 5,070   |
|                       | Roxburgh                    | — | — | — | 33,682  |
|                       | Dumfries                    | — | — | — | 54,597  |
|                       | Kirkcudbright               | — | — | — | 29,211  |

**ORIGINAL POPULATION.]** So far as historical researches can discover, the original population of Scotland consisted of Cimbri, from the Cimbric Chersonese. About two centuries before the Christian era, the Cimbri seem to have been driven to the south of Scotland by the Caledonians, or Picti, a Gothic colony from Norway. The Cimbri, a congenerous people with the Welsh, continued to hold the country south of the two Firths of Forth and Clyde : but from the former region they were soon expelled by the Picti, who, in this corner, became subject for a time to the Anglo-Saxon kings of Bernicia. On the west, the Cymraig kingdom of Strath Clyde continued till the tenth century, when it became subject to the kings of North Britain, who, at the time, extended their authority, by the permission of the English monarchs, over the counties of Cumberland and Westmoreland, which abounding with hills and fortresses on the south and east, were little accessible to the English power ; and while the Danes possessed the country to the north



of the Humber, could yield little revenue or support to the Anglo-Saxon monarchs. From the Picti originates the population of the Lowlands of Scotland, the Lowlanders having been, in all ages, a distinct people from those of the western Highlands; though the Irish clergy endeavoured to render their language, which was the most smooth and cultivated of the two, the polite dialect of the court and superior classes. About the year of Christ 258, the Dalriads of Bede, the Attacotti of the Roman writers, passed from Ireland to Argyleshire, and became the germ of the Scottish Highlanders, who speak the Irish, or Celtic language, while the Lowlanders have always used the Scandinavian, or Gothic.

[PROGRESSIVE GEOGRAPHY.] The progressive geography of Scotland is little opulent in materials. In the second century we find a map of North Britain, by Ptolemy; but he represents the Mull of Galloway as the most northern promontory of Scotland, and thence bends the country due east, so that all his longitudes and latitudes are fictitious\*. But his distribution of the tribes which then inhabited Scotland, may be regarded as tolerably exact. In the centre of the country he places a vast forest, which he calls the Sylva Caledonia, chiefly extending over modern Perthshire; an indication that the colonies had settled on the shores, and that the interior part of the country was little known. The Otadeni were the people of modern Northumberland and Lothian; the Selgovæ extended over Dumfriesshire and Kirkcudbright, to the bay of Wigton, while the Novantæ filled modern Wigtonshire, and extended upwards to Ayre-bay. The fourth southern tribe was that of the Damnii, who possessed the central region from near the source of the Clyde, to that of the Erne. On the north-east of the Damnii were the Venicones, from the Firth of Forth to the river Dee, while the Texali held the modern shires of Aberdeen and Banff. To the west of them were the Vacomagi, extending from Fort William to the Castra Alata, or Inverness. The other tribes scarcely deserve enumeration; the Cornabii possessed the most northern parts of Scotland, from Dunby-head to Strathnaver. Four tribes extended along the north-west, down to Loch Linny; to the south of which are placed the Epidii, in Argyleshire, who were divided by Loch Fyn from the Gadeni, who held that part to the east of Argyleshire called Cowal, in the county of Dumbarton.

After the time of Ptolemy, little information arises concerning the geography of Scotland, till, after the lapse of seven or eight centuries, we find the dawn of the present names and divisions. In the latter Roman period, the province of Valentia embraced that part which was south of the Clyde and Forth; as for a short space, from about A.D. 140 to 170, the name of Vespasiana had been imparted to the region extending from the Forth to Loch Ness. The remains of Roman roads from the chief evidence of the firm possession of the latter province.

In the middle ages, the name of Albany had been applied to that part of Scotland which lies on the north of the Firths: and about the year 1200 was written the Descriptio Albanie. In the fourteenth century, Fordun produced a larger and more precise idea of Scottish geography. Harding, who wrote his rhyming chronicle in the reign of Edward IV., gives a tolerably exact description of Scotland, which he had visited; and some manuscripts of his work contain a rude map of the country. The first engraved map is that published by Bishop Lesley, with his history;

\* For an ingenious explication of this defect, see M. Goffellin's letter to Mr. Pinkerton, in the appendix to the *Recherches sur les Scythes*. Paris, 1804, 8vo.

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but it abounds with portentous errors, which have been slowly removed. The atlas published in the last century does honour to the industry and abilities of Pont, and the munificence of Sir John Scott; and the recent exertions of Dorrett, Roy, Mackenzie, Huddard, Ainslie, and others, have contributed to establish some exactness in the geographical and hydrographical delineation of the country.

**HISTORICAL EPOCHS.]** 1. The original population of Scotland by the Cimbri, and by the Picti, forms the first historical epoch.

2. The entrance of Agricola into Scotland, and the subsequent conflicts with the Romans, till the latter abandoned Britain.

3. The settlement of the Dalriads, or Attacotti, in Argyleshire, about the year 258, and their repulsion to Ireland about the middle of the fifth century.

4. The commencement of what may be called a regular history of Scotland, from the reign of Druft, A. D. 414.

5. The return of the Dalriads, A. D. 503, and the subsequent events of Dalriadic story.

6. The introduction of Christianity among the Caledonians, in the reign of Brudi II. A. D. 565.

7. The union of the Picti and Attacotti, under Kenneth, A. D. 843.

8. The reign of Malcolm III. A. D. 1056; from which period greater civilization began to take place, and the history becomes more authentic.

9. The extinction of the ancient line of kings, in the person of Margaret, of Norway, grand-daughter of Alexander III., A. D. 1290. This event occasioned the arbitrary interposition of Edward I. king of England, which was the sole source of the enmity which afterwards unhappily prevailed between the kingdoms.

10. The accession of the house of Stuart to the Scottish throne; a family which produced most ingenious and intelligent, but most unfortunate princes.

11. The establishment of the Protestant religion, A. D. 1560.

12. The union of the two crowns, by the accession of James VI. to the English sceptre, A. D. 1603.

13. The civil wars, and the subsequent disputes between the Presbyterians and independants; causes that extinguished all sound literature in Scotland, for the space of twenty years, A. D. 1640-1660.

14. The revolution of 1688, and the firm establishment of the Presbyterian system.

15. The union of the two kingdoms in 1707.

16. The abolition of the hereditary jurisdictions, 1755, which laid the first foundation of the subsequent prosperity in Scotland.

**ANTIQUITIES.]** The monuments of antiquity belonging to the more early epochs, may be considered in the following order. Of the first epoch, no monuments can exist, except those of the tumular kind; and it is impossible to ascertain the period of their formation. The remains of the Roman period in North Britain chiefly appear in the celebrated wall, built in the reign of Antoninus Pius, between the Firths of Forth and Clyde, in the ruins of which many curious inscriptions have been found. Another striking object of this epoch, was a small edifice on the stream of Carron, vulgarly called Arthur's Oven, which seems rightly to have been regarded by some antiquaries, as a small temple, dedicated to the god Terminus.

The most northerly Roman camp yet discovered is that near the source of the river Ythan, Aberdeenshire; the periphery of which is about two

English miles. A smaller station has also been observed at Old Meldrum, a few miles to the S. E.

Roman roads have been traced a considerable way in the east of Scotland, as far as the county of Angus, affording some evidence of the existence of the province Vespasiana; but the chief remains are within the wall. The smaller remains of Roman antiquity found in Scotland, as coins, utensils, &c. are numerous.

With the fourth epoch may be said to commence the Pictish monuments of antiquity. The tombs it would be difficult to discriminate from those of the first epoch; but as the Caledonian kings, when converted to Christianity, held their chief residence at Inverness, the singular hill in its vicinity, presenting the form of a boat reversed, may perhaps be a monument of regal sculpture. The places of judgment among the Gothic nations, or what are now styled Druidic temples, are numerous; and there is a remarkable one in the isle of Lewis. Some of these monuments are of small circuit, and such are sometimes found at no great distance from each other; as they were not only erected as temples to Odin, Thor, Freyga, and other Gothic Deities; but every chief, or lord of a manor, having jurisdiction over many servants and slaves, such small courts became places of necessary awe.

The houses seem to have been entirely of wood or turf; but in some spots singular excavations are found rudely lined with stone: these are called *Weems*, and it is likely that they were always adjacent to the wooden residence of some chief, and were intended as depositories of stores, &c. the roof being too low for comfortable places of refuge. The stations and camps of the natives are distinguished by their round form, while those of the Romans belong to the square.

Under the next epoch it would be difficult to discover any genuine remains of the Dalriads. The houses, and even churches, were constructed in wattle-work: and the funeral monuments were cairns, or heaps of stones.

To the sixth epoch may probably belong a chapel or two, still remaining in Scotland; but it is probable that these sacred edifices in stone were soon followed by the erection of those rude, round piles, without any cement, called Picts houses; yet they may more properly belong to

The seventh epoch, when the Danes may share in the honour of the erection, for such edifices have been traced in Scandinavia. They seem to have consisted of a vast hall, open to the sky in the centre, while the cavities in the wall present incommensurable recesses for beds, &c. These buildings are remarkable, as displaying the first elements of the Gothic castle; and the castle of Coldingburg, in Yorkshire, forms an easy transition. The engraved obelisks found at Forres, and in other parts of Scotland, have been ascribed to the Danish ravagers who had not time for such erections. They are probably monuments of signal events, raised by the king or chiefs; and as some are found in Scandinavia, as recent as the fifteenth century, it is probable that many of the Scottish obelisks are far more modern than is generally imagined.

To enumerate the churches and castles erected since the reign of Malcolm III. would be infinite. Some of the most splendid churches derive their foundation from David I., in the twelfth century.

## Religion.

### RELIGION.

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## CHAPTER II.

## POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Population.—Colonies.*

**RELIGION.]** SINCE the revolution, 1688, the ecclesiastical government of Scotland, has been of the Presbyterian form. The number of parishes in Scotland is 941\*; contiguous parishes unite in what is called a *presbytery*, of which denomination there are sixty-nine. The provincial *synods*, amounting to fifteen, are composed of several adjacent *presbyteries*; but the grand ecclesiastical court is the general assembly, which meets every year, in the spring; the king appointing a commissioner to represent his person, while the members nominate their moderator, or president.

To this ecclesiastical council laymen are also admitted, under the name of ruling elders, and constitute about one-third of this venerable body. This court discusses and judges all clerical affairs, and admits of no appeal, except to the parliament of Great Britain. In general, the Scottish clergy deserve the highest praise, as men of enlightened minds, and moderate conduct; and a singular proof of the diffusion of talents among them has recently appeared, in the statistical account of Scotland, published by Sir John Sinclair, in twenty-one volumes; for there are few parishes of which the account is not ably delineated by the clergyman himself.

As whatever establishment is effected in a free country, opposition will always arise, the establishment of the Presbyterian system was, in the space of one generation, followed by the secession, which took place in 1732. The seceders being the most rigid in their sentiments, and animated by persecution, soon formed a numerous party.

About the year 1747, they were themselves divided into two denominations, called the *Burgers* and the *Anti-Burgers*, because the division arose concerning the legality of the oaths taken by the burghesses of some of the royal boroughs; the former allowing that the oath is proper, while the latter object; the former are the more numerous, the number of their ministers being computed at about 100, and at a medium each has a congregation of about 1000.

Many respectable families in Scotland embrace the episcopal form of the church of England. The other descriptions of religious professions are not numerous. There are but few Roman Catholics, even in the remote Highlands, the scheme of education being excellent, and generally supported with liberality.

**ECCLESIASTICAL GEOGRAPHY.]** To delineate the ecclesiastical geography of Scotland, would be to enumerate its parishes; nor are the *Presbyteries* and *synods* of such account as to influence the fate of the towns where they assemble. The ancient establishment comprised two archbishoprics, those of St. Andrew's and Glasgow; and eleven bishoprics, (that of Edinburgh having only been established by Charles I.) which, in the order of antiquity, may be thus enumerated: Galloway (St. Andrew's) Dunkeld Moray; five founded by David I. Brechin, Dumblane, Aberdeen, Ross, (Glasgow); that of Argyle, or Lismore was founded

\* Statist. Account.

about the year 1200, because the bishops of Dunkeld did not speak the Irish tongue. The bishops of Orkney, and of the western islands, date from an early period, while their sees were not subject to the Scottish crown.

**GOVERNMENT.]** The government of Scotland, since the union, has been blended with that of England. The chief distinction between the original constitution of the two countries was, that Scotland had no house of commons, the parliament, consisting of all descriptions, assembled in one hall. That enlightened prince, James I., of Scotland, endeavoured in vain to establish a house of commons, in imitation of that of England, where he was educated. The most splendid remaining feature of government in Scotland is the general assembly. Next to which may be classed the high courts of justice, especially that styled the session, consisting of a president and fourteen senators. The lords of session, as they are styled in Scotland, upon their promotion to office, assume a title, generally from the name of an estate, by which they are known and addressed, as if peers by creation, while they are only constituted lords by superior interest or talents. This court is the last resort in several causes, and the only appeal is to the parliament of Great Britain.

It is to be regretted that the causes are not determined by jury as in England. The judiciary court consists of five judges, who are likewise lords of session: but, with a president, styled the lord justice clerk, as he is only understood to represent the formerly great office of justice general. This is the supreme court in criminal causes, which are determined by the majority of a jury, and not by the unanimity, as in England. There is also a court of Exchequer, consisting of a lord chief baron, and four barons: and a high court of admiralty, in which there is only one judge. The keepers of the great and privy seals, and the lord register or keeper of the records, may also be mentioned under this head.

**LAWS.]** The law of Scotland differs essentially from that of England, being founded, in a great measure, upon the civil law. It partly consists of statute law; but many of the ancient statutes never having been enforced, the chief rule of this sort arises from the decisions of the session, which are carefully preserved and published, and afford precedents, generally deemed unexceptionable. Of common law there is hardly a trace, while the civil and canon laws may be said to form the two pillars of Scottish judicature. The modes of procedure have, however, the advantage of being free from any of those legal fictions which disgrace the laws of some other countries. The inferior courts are those of the sheriffs, magistrates, and justices of the peace. Under the hereditary jurisdictions happily abolished, the peers and other great men maintained a power almost absolute, over their attendants and followers, so that there was no law but the will of the master, and the cities alone could be deemed seats of freedom.

**POPULATION.]** The population of Scotland in 1755, was computed at 1,265,000; according to the documents furnished by Sir J. Sinclair's statistical account, the numbers in 1798 were 1,526,492\*; and by the government enumeration in 1801, the inhabitants appeared to amount to 1,599,068.

The army, navy, revenues, political importance, and relations of Scotland are now inseparably intermingled with those of England.

\* Vol. xi. p. 620.

## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Education. — Universities. — Cities and Towns. — Edifices. — Inland Navigation. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the Scots begin to be much assimilated with those of the English. In their religious ceremonies, attending baptism and marriages, there are variations arising from the Presbyterian form which does not admit of god-fathers or god-mothers, but renders the parents alone answerable for the education of the child. The clergyman does not attend at funerals, nor is there any religious service, but generally great decency. Among the lower classes the funerals are generally far more numerously attended than in England; nor is black an indispensable colour of dress on such occasions.

In the luxuries of the table the superior classes rival the English; several national dishes, formerly served up at the best tables, and originating from the French cooking, in the reign of Mary, being now vulgar or neglected; such as the haggis, or *bachis*; cock a-leekie, or a capon boiled down with leeks; crapped heads, or haddocks stewed; the heads being stuffed with a kind of forced-meat balls, &c. &c. The diet of the lower classes passes in a gradual transition from the north of England. The chief food is *parich*, or thick pottage, formed with oatmeal and water, and eaten with milk, ale, or butter; in a hard lumpy form it is called *brose*. With this the labourer is generally contented twice or thrice in the day, with a little bit of meat for Sunday; nor does he repine at the bacon of the English poor, there being a theological antipathy to swine, which also extends to eels, on account of their serpent-like form.

The sobriety of the lower classes is in general exemplary; and the Scottish manufacturer or labourer, instead of wasting his weekly gains at an ale-house, is ambitious to appear with his family in decent clothes on Sundays and other holidays. This may be regarded as a striking characteristic of the Scottish peasantry, who prefer the lasting decencies of life to momentary gratifications. To this praise may be added, that of intelligence, arising from the diffusion of education, which is such, that even the miners in the south possess a circulating library.

The houses of the opulent have been long erected upon the English plan, which can hardly be exceeded for interior elegance and convenience. Even the habitations of the poor have been greatly improved within these few years, and instead of the thatched mud hovel, there often appears the neat cottage of stone, covered with tile or slate.

The dress of the superior classes is the same with that of the English. The gentlemen in the Highlands, especially in the time of war, use the peculiar dress of that country. Among the other classes, the Scottish bonnet is now rarely perceived, except in the Highlands; it was the usual covering for the head all over Europe, till towards the end of the sixteenth century, when the hat, formerly only worn in riding or hunting, came into general use.

The amusements of the rich are on a parallel with those of the English; but those of the peasantry have several diversities, which the reader



may, perhaps, best learn from the poems of Burns. That of *curling* consists in rolling large stones, with iron handles upon the ice, towards a fixed mark, a favourite and healthy diversion in the winter. The English quoits are supplied by *penny flanes*, round flat stones, which are tossed in the same manner. Two exquisite poems of Mr Burns, his *Halloween*, and his *Cotter's Saturday Night*, will convey more information concerning the amusements, superstitions, and manners, of the Scottish peasantry, than the most long and animated detail.

LANGUAGE.] The Scottish language falls under two divisions, that of the Lowlands consisting of the ancient Scandinavian dialect, blended with the Anglo-Saxon; and that of the Highlands, which is Irish. The Lord's prayer, in the most ancient language of the Lowlands, would be as follows:

1. Uor fader quhilk beest i Hevin. 2. Hallowit weird thyne nam. 3. Cum thyne kingrik. 4. Be dune thyne wull as is i Hevin sva po yerd. 5. Uor dailie breid gif us thilk day. 6. And forleit us uor skaiths, as we forleit tham quha skath us. 7. And leed us na intil temptation. 8. Butan fre us fra evil. Amen.

The islands of Orkney were seized by the Norwegians, in the ninth century, and the inhabitants retained the Norse language till recent times, when they began to speak remarkably pure English. Chamberlayne has given the Lord's prayer in their ancient dialect:

1. Favor ir i chinre. 2. Helleur ir i nam thite. 3. Gilla cosdum thite camina. 4. Veya thine mota vara gort o yurn sinna gort i chinrie. 5. Ga vus da on da dalight brow vora. 6. Firgive vus sinna vora sin vee firgive sindara mutha vus. 7. Lyv us ye i tuation. 8. Min delivera vus fro olt ilt. Amen: or, On so meteth vera.

In the Erse, or Irish, of the Highlands, the same supplication runs thus:

A n' Athair ata air Neamh. 1. Gu naamhaichear t Tinn. 2. Tigeadh do Rioghachd. 3. Deanthar do Thoil air an Talamh mar a nithear air Neamh. 4. Tabhair dhuinn an diu ar n Aran laitheil. 5. Agus maith dhuinn ar Fiacha amhuil mar mhaithmid d'ar luehd sia chaibh. 6. Agus na leig am buaireadh sinn. 7. Ach faor sinn o Ole. Amen.

LITERATURE.] The literature of Scotland recompenses for its recent origin by its rapid progress and extensive fame. The country that produced Buchanan in the sixteenth century, could not, in the 12th, boast of one native writer.

Yet, it must not be forgotten, that in this dark period, on the sacred ground of Hyona, flourished several respectable Irish writers, who are also classed among the apostles of religion and learning in England; such were Columba, who converted the northern Caledonians, and his biographers, Cuminius and Adomnan, the latter the friend of Bede. Among the Strathclyde Welsh may be named Patrick, in his turn the apostle of Ireland.

One of the earliest native writers is Thomas of Erceledon, called the Rimer, who flourished about the year 1270, and wrote a metrical romance, called Sir Tristram. John Barbour, Archdeacon of Aberdeen, wrote his poem on the actions of Robert I., in the year 1375. At the same time flourished John Fordun, the father of Scottish history. James I. of Scotland, wrote some excellent poems early in the fifteenth century; and he was followed by Holland and Henry the Rimer. In the end of that century arose Dunbar, the chief of the ancient Scottish poets; and, in the beginning of the next, Gawin Douglas and David Lindsay.

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Lindsay. The Scottish muse continued to warble till the middle of the seventeenth century, when religious fanaticism extinguished all the arts and sciences, but not before Drummond had woven his web of Doric delicacy. In more modern times the names of Thomson, Blair, Armstrong, Beattie, Burns, &c. are universally known.

Rude chroniclers continued the chain of events, but history was mute till Buchanan founded his classical trumpet. Bishops Lesley and Burnet are not without their merit; but why repeat to the echoes of fame the illustrious names of Hume and Robertson.

The other departments of science are of yet more recent cultivation in Scotland; even theology seems unknown till the beginning of the sixteenth century; and of medicine there is no trace till the seventeenth; while we can now boast of Blair; and Edinburgh ranks among the first medical schools of Europe. Natural philosophy and history were totally neglected till after the Restoration; yet Scotland can now produce able writers in almost every branch, and equal progress has been made in moral philosophy. Among the few departments of literature in which the Scottish authors have been unsuccessful, may be named epic poetry, comedy, and the critical illustration of the classics.

EDUCATION.] The mode of education pursued in Scotland is highly laudable, and to judge from its effects is, perhaps, the best practical system pursued in any country in Europe. The plan which is followed in the cities is nearly similar to that of England, either by private teachers, or at large public schools, of which that of Edinburgh is the most eminent, and may be traced from the sixteenth century. But the superior advantage of the Scottish education consists in every country parish possessing a schoolmaster, as uniformly as a clergyman; at least the rule is general, and the exceptions rare. The schoolmaster has a small salary, or rather pittance, which enables him to educate the children at a rate easy and convenient, even to indigent parents. In the Highlands the poor children will attend to the flocks in the summer, and the school in the winter.

UNIVERSITIES.] The universities of Scotland, or rather colleges, (for an English university includes many colleges and foundations,) amount to no less than four, three on the eastern coast, St. Andrew's, Aberdeen and Edinburgh; and one on the western, that of Glasgow.

The university of St. Andrew's was founded by Bishop Wardlaw, in the year 1412; but as it is now of small importance in the proximity of that of Edinburgh, it would be a patriotic measure to transfer it to the Highlands. That of Glasgow was founded by Bishop Turnbull, in the year 1453, and it has produced many illustrious professors and able students. The late Mr. Anderson, professor of natural philosophy, founded an institution to promote the knowledge of natural philosophy and history, and more especially the application of these sciences to the useful purposes of commerce and manufactures\*.

The third university, that of Aberdeen, was founded by Bishop Elphinstone, in the year 1500, and it has always supported its high character and intentions. In the year 1593, George Keith, fifth Earl Marischall, founded a college at Aberdeen, being the only Scottish nobleman who can claim that high honour. The last, not least, is that of Edinburgh, founded by James VI., in 1580; and the bare enumeration of its illustrious professors and writers would occupy too much space for the present plan. The buildings being mean and confined, the founda-

\* Garnett's Tour, ii. 193.

tion of a new edifice was laid in 1789, and, it is hoped, will soon be completed on the magnificent plans adjusted by Adams.

**CITIES AND TOWNS.]** The chief cities and towns in Scotland must now be considered. Edinburgh, the capital, is comparatively of modern name and note, the earliest hint that can be applied to it, occurring in the *Cronicon Pictorum*, about the year 955, where mention is made of a town called Eden, as resigned by the English to the Scots, then ruled by Indulf. Holyrood-house was the foundation of the first David.

The population of Edinburgh, including the port of Leith, was, in 1678, computed at 35,500; in 1755, at 70,430; and in 1791, at 84,886\*.

The whole number of inhabitants in the old and new town of Edinburgh, together with the suburbs, and the sea ports of north and south Leith, were found by actual enumeration in 1801 to amount to 82,560†.

The arrivals and clearances at Leith harbour, exceed the number of 1700 vessels of various descriptions. Of these 165 belong to the town. The commerce has been stated at half a million annually.

The houses in the old town of Edinburgh are sometimes of remarkable height, not less than thirteen or fourteen floors, a singularity ascribed to the wish of the ancient inhabitants, of being under the protection of the castle. This part of the city stands on the ridge of a hill, gradually descending from the lofty precipice on which the castle is situated, to a bottom, in which stands the palace of Holyrood-house. Adjacent to this edifice, is a park of considerable extent, replete with mountainous scenery; for the basaltic heights of Arthur's seat, and Salisbury crags, are within its precincts. The new town of Edinburgh is deservedly celebrated for regularity and elegance, the houses being all of free-stone, and some of them ornamented with pillars and pilasters.

There are several public edifices in Edinburgh, which would do honour to any capital; among such may be named the castle, the palace, the principal church, Heriot's-hospital, the register office, the new college, and several buildings in the new city‡. There is an elegant bridge, reaching from the hill on which the ancient city stands, to the elevated site of the new town. Another bridge passes in a line with the former, towards the south, over a street called the Cow-gate: and an artificial mound extends from the western part of the ridge to the opposite hill. The environs of Edinburgh are singularly pleasing and picturesque. On the north is an elevated path, leading to the harbour of Leith: on the east are Musselburgh and Dalkeith, rural villages, watered by a beautiful stream. On the south, Pentland hills; and towards the west, the rivulet Leith, and banks of romantic variety.

The second city in Scotland is Glasgow, of ancient note in ecclesiastical story, but of small account in the annals of commerce, till the time of Cromwell's usurpation§. The population of Glasgow, in 1755, was computed at 23,546, including the suburbs; the number in 1791, was estimated at 61,945; and the amount of the enumeration in 1801, was 77,385. The ancient city was rather venerable than beautiful, but recent improvements have rendered it one of the neatest cities in the empire. Its western situation exposes it to frequent rains, a disadvantage recompensed by its favourable position for commerce with America and the West Indies. Its commerce has arisen to great extent since the year

\* Statist. Account, vi. 564.

† Abstract of the answers and returns, &c. P. II.

‡ Arnot's Edinburgh.

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§ Donholm's Glasgow.

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1718, when the first ship that belonged to Glasgow crossed the Atlantic\*. The number of ships belonging to the Clyde, in 1790, was 476, the tonnage 46,581; but before the American war, it was supposed to have amounted to 60,000 tons. Though the manufactures scarcely exceed half a century in antiquity, they are now numerous and important †. That of cotton in 1791, was computed to employ 15,000 looms; and the goods produced, were supposed to amount to the yearly value of 1,500,000*l.* the manufactures of linens, woollens, &c. are far from being of similar consequence. The ancient cathedral of Glasgow survived the reformation, when the other Scottish edifices of that denomination sunk into ruins. Two convenient bridges are thrown over the Clyde. The environs of Glasgow present little remarkable.

Next in eminence are the cities of Perth and Aberdeen, and the town of Dundee. Perth is an ancient town, supposed to have been the Victoria of the Romans. It is pleasantly situated on the western bank of the river Tay; and has been known in commerce since the thirteenth century, but at present the trade is chiefly of the coasting kind, Dundee possessing a more advantageous situation for foreign intercourse. Linen forms the staple manufacture, to the annual amount of about 160,000*l.* There are also manufactures of leather and paper. Perth displays few public edifices worth notice. Inhabitants 14,878. There is a noble bridge, of recent date, over the Tay, and the environs are interesting, particularly the hill of Kinnoul, which presents singular scenes, and many curious mineral productions.

About eighteen miles nearer the mouth of the Tay, stand Dundee, in the county of Angus, a neat modern town. The firth of Tay is here between two and three miles broad; and there is a good road for shipping to the east of the town, as far as Broughty-castle. On the first of September 651, Dundee was taken by storm by General Monk; and Lumisdene, the governor, perished amidst a torrent of bloodshed. The population is however, now equal to 26,084; the public edifices are neat and commodious. In 1792, the vessels belonging to the port amounted to 116, tonnage 8,550. The staple manufacture is linen, to the annual value of about 80,000*l.* canvasses, &c. about 40,000*l.* Coloured thread also forms a considerable article, computed at 33,000*l.* and tanned leather at 14,000*l.* ‡.

Aberdeen first rises to notice in the eleventh century, and continued to be chiefly memorable in ecclesiastical story. In the fourteenth century it was destroyed by Edward III. of England. The population in 1795, was computed at 24,493, but the enumeration in 1801, reduced it to 17,597. Though the harbour be not remarkably commodious, it can boast a considerable trade, the chief exports being salmon and woollen goods. In 1795, the British ships entered at the port, were sixty-one, the foreign five; and the British ships cleared outwards, amounted to twenty-eight. The chief manufactures are woollen goods, particularly stockings, the annual export of which is computed at 123,000*l.* The coarse linen manufacture is not of much account, but the thread is of esteemed quality.

The other chief towns of Scotland shall only be briefly mentioned, beginning with the south-east part of the Kingdom. Berwick is a fortified town of some note, and carries on a considerable trade in salmon. The vessels built at this port are constructed on excellent principles.

\* Statist. Acc. v. 498.

† Ibid. 502.

‡ Statist. Acc. viii. p. 204, &amp;c.

Jedburgh, on the river Jed, which descends from the Cheviot hills, is chiefly remarkable for the beautiful ruins of an abbey, founded by David I. Present number of inhabitants 3,834.

Dumfries stands on a rising ground, on the eastern banks of the Nith, and contains 7,288 inhabitants.

Ayr, the chief town in the S. W. of Scotland, is situated on a sandy plain, on a river of the same name. The chief trade is in grain and coals; and a few vessels are built. Inhabitants 5,492. Irwin has about 4000.

Lanark stands in a most picturesque country, near the celebrated falls of the Clyde. It was only noted for its academy, under the management of Mr. Thomson, brother-in-law of Thomson the poet, till the recent cotton manufacture, and other erections by the patriotic Mr. Dale, rendered this town still more worthy of attention. Inhabitants 4,692.

Greenock and Port-Glasgow, are considerable towns, which have arisen to celebrity, by sharing in the trade of Glasgow. Greenock contains 17,458 inhabitants; Port-Glasgow about 3,865. Paisley, in the same county, is celebrated by its manufacture of muslin, lawns, and gauzes, to the annual amount, it is said, of 660,000l. The population amounts to 31,179. Dumbarton, on the opposite shore of the Clyde, contains about 2,541 souls, and is also subservient in the manufactures of Glasgow.

Sterling is rather remarkable for its commanding and truly royal situation, than for its industry. The inhabitants amount to 5,256. Between Sterling and Edinburgh stands Boness, formerly called Borrowtowness, in the midst of collieries and salt-works: the harbour is good, and there are 2,790 inhabitants.

The county of Fife contains many towns, some of which were in a more flourishing situation when Scotland carried on a considerable intercourse with France. Dunfermline is a pleasant town, containing 9,980 inhabitants, and carries on a considerable manufacture of diapers. There are ruins of a palace, the royal residence in the time of Malcolm III. St. Andrews has about 2,500; it is chiefly remarkable for its ruined cathedral.

Forfar, in Angus, contains 5,165 souls, and the linen manufactures deserve mention.

Dunkeld is of venerable and picturesque fame, but its linen manufactures are inconsiderable. Brechin contains 5,466 people: its products are linen, cotton, and tanned leather. Montrose has a population of 7,974, and a few manufactures; the buildings are mostly modern and neat.

The county of Mearns presents no town worth mention. Peterhead, in Aberdeenshire, contains about 2,000 souls. It has a mineral spring, and carries on some trade with the Baltic. Frazerburgh, near the promontory of Kinnaird Head, has also a tolerable harbour. Inhabitants 2,215.

Portfroy is a sea port town, peopled with about 2,000 souls. In the neighbourhood, are the rocks well known to mineralogists, containing elegant granites of different kinds, serpentines and steatites, with their usual concomitants, asbestos and amianthus.

Elgin, the capital of the county of Moray, boasts of the remains of an elegant cathedral, and contains 4,345 inhabitants.

Inverness is an ancient and flourishing town, the capital of the northern Highlands. The population equals 8,722. The chief manufactures are ropes and candles. An academy has lately been founded here on an excellent plan.

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The few towns further to the north are of little account. Port Rose has only 800 souls; but Cromarty has 2,208, a small manufacture of coarse cloth, and some coasting trade in corn, thread, yarn, nails, fish and skins. Dingwall contains 1,418 souls, and a small linen manufacture. Tain has 2,277 inhabitants. Dornoch was once the residence of the bishops of Caithness: population 2,362.

After a dreary interval Wick occurs, the last town on the eastern coast; the inhabitants, 3,986, chiefly deal in cod and herrings.

Thurso, on the northern shore, fronting the Orkneys, has manufactures of woollen and linen. Population 3,628.

Hence there is a lamentable void along the western half of Scotland, till we arrive at Inverary, in Argyleshire, the foundation of the noble house of Argyle, after passing a space of about 160 miles, where only a few scattered hamlets can be found. Inverary is a neat and pleasant town of about 1,000 souls; there are manufactures of linen and woollen, and a considerable iron work. The ore is brought from the west of England, and is smelted with charcoal, from the woods of Argyleshire.

In the same county is Campbell-town, a royal borough, in the southern part of the peninsula of Cantire. The trade is considerable as it is the general resort of the fishing vessels; and the inhabitants amount to 7,093. The harbour is excellent, in the form of a crescent, opening to the east, in front of the Island of Arran. About fifty weavers are employed in the cotton manufacture\*.

EDIFICES.] Scotland abounds with remarkable edifices, ancient and modern. Those of the capital have been already mentioned. In its vicinity is Hopeton-house, the splendid residence of the earl of Hopeton; Dalkeith palace, a seat of the duke of Buccleugh; Newbottle, the seat of the marquis of Lothian; Melville-castle, the elegant villa of the Rt. Hon. Lord Melville; and the splendid mansion of the marquis of Abercorn. Nor must Pennicuick, the seat of the family of Clerk, be omitted; but the traveller of taste would be more interested in Hawthornden, the ancient seat of Drummond the poet. It would be vain to attempt a similar enumeration of the other counties, and only a few of the most remarkable shall be mentioned; such as in the south, the duke of Roxburgh's, near Kelso; the Duke of Queensberry's at Drumlanrig; and Hamilton-palace near Hamilton.

The county of Ayr contains many beautiful edifices belonging to the nobility and gentry, among which may be mentioned Loudon-house, the seat of the earls of Loudon; and Colaine-castle, the seat of the earl of Cassilis, designed by Adams, in 1789. Wigtonshire has Culhorn, the seat of the earls of Stair and Cattle-Kennedy; Galloway-house, &c. In the vicinity of the flourishing city of Glasgow, it may be imagined that the villas must be numerous and elegant; and, even the small island of Bute can boast of Mount Stuart. The castle of Dumbarton is another remarkable edifice in this region.

On passing the Forth, the rich county of Fife presents many interesting edifices, such as Leslie-castle, the seat of the earls of Rothes; Wemyss, and Balcarras, the seats of the earls of those titles; the house of Kinross, built by Sir William Bruce, &c. &c. Perthshire contains Tullibardin and Blair, the seats of the Duke of Athol; Dupplin, that of the earl of Kinnoul; Drummond, the residence of lord Perth; Taymouth, the splendid mansion of the earl of Braidalban; Scone, a

\* Statist. Account, x. 552.



royal palace, &c. &c. In Angus we find Panmure, the ancient residence of the earls of Panmure; and Glammis, the venerable seat of the earls of Strathmore. The Shire of Mearns, or Kincardine, contains Dunotter-Castle, the elevated mansion of the earls Marshall, &c. Aberdeenshire presents castle Forbes. In Bamff-shire we find Cullen-house, the interesting seat of the earl of Finlater; Duff-house, that of the earl of Fife; Gordon-castle, a beautiful mansion of the duke of Gordon; in the county of Moray, Tarnaway-castle, the seat of the earl of Moray; Inverness presents Fort George, a military erection of some note, about twelve miles to the east of Inverness. The line of forts is continued through the centre of the county, by Fort Augustus, at the further end of Lochness, and Fort William, at the northern extremity of Loch Linny, at the bottom of the lofty Bennevis. In the county of Ross, to the north of Dingwall, is Castle-Leod, a seat of the earls of Cromarty, New Tarbet, and Balnagowan, command the Frith of Cromarty. At Dornock and Dunrobin, are seats of the earls of Sutherland. The shore of Caithness displays many ancient castles, but the modern edifices are few; the patriotic Sir John Sinclair has a pleasing residence near Thurso; and in the N.W. extremity of Scotland, lord Reay has two mansions, one near Tong, and another at Durness, with an extensive wild of rocks, intercepted with morasses, called lord Reay's forest. The western coasts of Scotland present an enormous void, till Inverary, the splendid mansion of the dukes of Argyle, rises like some oriental vision in the wildernesses.

INLAND NAVIGATION.] The most remarkable inland navigation in Scotland, is the excellent and extensive canal from the Forth to the Clyde, commenced in 1768, from a survey by Smeaton four years before.

"The dimensions of this canal, though greatly contracted from the original design, are much superior to any work of the same nature in South Britain\*. The English canals are generally from three to five feet deep, and from twenty to forty feet wide, and the lock gates from ten to twelve feet; but they answer the purpose of inland carriage from one town to another, for which alone they were designed. The depth of the canal between the Forth and Clyde is seven feet; its breadth at the surface fifty-six feet; the locks are seventy-five feet long, and their gates twenty feet wide. It is raised from the Carron by twenty locks, in a tract of ten miles, to the amazing height of 155 feet above the medium full sea mark. At the twentieth lock begins the canal of partition on the summit, between the east and west seas; which canal of partition continues eighteen miles on a level, terminating at Hamilton-hill, a mile N. W. of the Clyde, at Glasgow. In some places the canal is carried through mossy ground, and in others through solid rock. In the fourth mile of the canal there are ten locks, and a fine aqueduct bridge, which crosses the great road leading from Edinburgh to Glasgow. At Kirkintullock, the canal is carried over the water of Logie, on an aqueduct bridge, the arch of which is ninety feet broad. There are in the whole eighteen draw-bridges, and fifteen aqueduct bridges, of considerable size, besides small ones and tunnels."

The supplying the canal with water, was of itself a very great work. One reservoir is above twenty-four feet deep, and covers a surface of fifty acres, near Kilsyth. Another, about seven miles north of Glasgow, consists of seventy acres, and is banked up at a sluice, twenty-two feet.

\* Phillips, 276.

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The distance between the Firths of Clyde and Forth, by the nearest passage, that of the Pentland Firth, is 600 miles, by this canal scarcely 100. On the 28th of July, 1790, the canal was completely open from sea to sea, when a hogshhead of the water of Forth was poured into the Clyde, as a symbol of their junction. The length of the canal is precisely thirty-five miles, and no work of the kind can be more ably finished.

The general commerce of Scotland, though on a smaller scale, and with smaller capitals, is in most respects similar to that of England, and shares in the national prosperity. That of the capital, through Leith its port, has been estimated, as we have seen, at half a million yearly\*. The chief exports are linen, grain, iron, glass, lead, woollen stuffs, soap, &c. &c. The imports are wines, brandy, and from the West Indies and America, rum, sugar, rice, indigo. Glasgow exports cottons of all kinds, muslins, lawn, gauzes, &c. glass, stockings, earthen ware, cordage, &c. candles, soap, iron, leather, &c. &c. The chief imports are tobacco, sugar, rum and cotton, from the West Indies; Irish beef, butter, and linen; wines from Portugal, and other countries. The fisheries of Scotland, if carried to a proper extent, would furnish a very considerable store of merchandize.

The chief manufactures of Scotland are linen of various kinds, to the amount, it is said, of about 750,000l. annually. Of woollens, the Scottish carpets seem to form the chief branch. The iron manufactures, particularly that of Carron, deserve also to be enumerated among the chief national advantages.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE climate of Scotland is such as might be expected in a latitude so remote, and a country so mountainous. In the eastern parts, there is not so much humidity as in England, as the mountains on the west arrest the vapours from the Atlantic. On the other hand, the western countries are deluged with rain, an insuperable obstacle to the progress of agriculture. Even the winter is more distinguishable by the abundance of snow, than by the intensity of the frost; but in summer the heat of the sun is reflected with great power in the narrow vales between the mountains. These observations chiefly apply to the north and west. In the east and south the climate differs but little from that of Yorkshire; and corn sometimes ripens in the vales of Moray, as early as in Lothian.

**FACE OF THE COUNTRY.]** The face of the country is in general mountainous, to the extent, perhaps, of two thirds; whence the population is of necessity slender, in comparison with the admeasurement. But the name of Highlands is more strictly confined to Argyshire, the west of Perthshire, and of Inverness; and the entire counties of Ross,

\* In 1793, the Scottish exports were computed at 1,024,741l. Chalmers's Estimate, p. lxxv. edit. 1794. The ships employed were 2,234. ib.

Sutherland, and Caithness. In proceeding from the south-east, the entrance into the highlands near Dunkeld is very impressive, there being a considerable tract of plain, just before what may be termed the gates of the mountains. Even the eastern parts have little of uniform flatness, but are sweetly diversified with hill and dale. The rivers in general are remarkably pure and transparent, and their course rapid. The rich roughness of an English prospect, diversified with an abundance of wood, even in the hedge-rows, is in Scotland rarely visible; whence the nudity of the country makes a strong impression on the stranger. But the laudable exertions of many of the nobility and gentry, who plant trees by millions, will soon remove this reproach.

**SOIL AND AGRICULTURE.]** For a minute account of the various soils that prevail in Scotland, and the different modes of agriculture, the reader must be referred to the Statistical Accounts, published by Sir John Sinclair. The excellence of the English agriculture has justly entitled it to an imitation almost universal. But this advantage is of recent date; and, for a long period of time, Scotland was remarkable for producing the best gardeners and the worst farmers in Europe.

**RIVERS.]** The three chief rivers of Scotland are the Forth, the Clyde, and the Tay. The chief source of the Forth is from Ben Lomond, or rather from the two lakes, Con and Ard: the stream of Goudie soon joins it from the lake of Menteith; and the river Teith, fed by the lakes Ketterin, Lubnaig, and others, swells the Forth to a noble stream, about four miles above Stirling.

The Clyde is said to issue from a hill in the S. E. corner of Tweedale, called Arrick Stane, which is undoubtedly the chief source of the Tweed, and one source of the Annan; but the Clyde has a more remote source in Kirshop, or Dair water, rising about six miles further to the south, in the very extremity of Lanarkshire; and the true source of the Annan seems to be Loch Skeen, in the county of Selkirk. However this be, the Clyde passes through Crauford Moor, leaving the range of Leadhills on the left, and winding under the lofty hill of Tinto, near Symington, pursues a northerly course, till about two miles to the south of Carnwaith, when it resumes its chief westerly direction.

The principal source of the Tay is the lake of the same name, or the river may be traced to the more westerly sources of the Attrick and the Dochart, and the smaller stream of Lochy; which fall into the western extremity of Loch Tay. Soon after this noble river issues from the lake, it is joined by the river Lyon; and, at no great interval, by the united streams of the Tarf, the Garry, and the Tumel, the last, a rapid and romantic river. The streams of Erich and Ilay swell the Tay, about nine miles to the north of Perth; after passing which city, it receives the venerable stream of the Ern, and spreads into a wide estuary.

Next in consequence and in fame is the Tweed, a beautiful and pastoral stream, which, receiving the Teviot from the south, near Kelfo, falls into the sea at Berwick.

The Scottish Tyne is an inconsiderable river, which runs by Haddington.

In the south west, the Annan contributes largely to the Firth of Solway, but no town worth mentioning adorns its banks. Dumfries stands upon the Nith, a river of longer course than the Annan, and marked as its estuary by the ruins of Caerlavroc castle, an important fortress in ancient times. The river Orc, and that recently styled Kirkudbright, anciently and properly called the Ken (whence is derived the title of *Kenmure*), and the Fleet, are surpassed by the river Cree or Crief; which formerly

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formerly split Galloway into two divisions, and which opens into the noted bay of Wigton.

The rivers of Ayrshire, flowing into the grand estuary of the Clyde, are of inconsiderable size.

To the north of the estuary of Forth occurs the Eden, which, after watering the royal park of Falkland, and Coupar the county town, meets the ocean, about two miles to the north of St. Andrews.

To the north of Tay are the South Esk, which passes by Brechin and Montrose; and the North Esk, a less considerable stream.

In the county of Kincardine there is no river of consequence. But the Dee is a considerable and placid stream, issuing from the mountains of Scairloch, and pursuing a due easterly course to Aberdeen. The Don runs almost parallel, a few miles to the north, joining the sea about two miles from Aberdeen, after passing Old Aberdeen, or rather, in the old orthography, Aberdon.

A few miles to the north of the Don, the river Ythan falls into the German ocean, a stream formerly celebrated for its pearl fisheries, of which some relics remain. The Uggie is the last stream of any consequence in Aberdeenshire.

The following rivers direct their course to the north. The Devon joins the sea at Banff. The Spey is a grand impetuous river, rising from a small lake, called Loch Spey, in the vicinity of the high mountain of Corriarok, near Fort Augustus, whence it rolls to the south-east, amid mountainous wilds, till it suddenly turns to its fixed direction, the north-east, being, perhaps, upon the whole, the most considerable Alpine river in Scotland.

The water of Lossie is only remarkable as it washes the venerable remains of Elgin; but Findorn, which runs by the Forres of Macbeth and Shakespeare, is a considerable torrent.

The Ness, issuing from the lake so called, and the Beuly, conspire to form the large estuary, called Murray Firth; while that of Cromarty is formed by the Grady, the Conon, and other streams.

The estuary of Dornoch is formed by a river which issues from Loch Shin, by the Caran, and by the intermediate stream, called Okel.

The other streams in the furthest north of Scotland are unhappily of small consequence. The water of Thurso, and that of Naver, are the chief. In the north-west extremity are the Strathmore, the Strathbeg, and the Durness, which enter the sea to the east of the stupendous promontory of Cape Wharf, now modernized Wrath.

On the west of Scotland there is no river of any moment, but the defect is compensated by numerous lakes, or rather creeks, of which the most considerable are Laxford, Calva, Ennard, and that of Broome, which forms a noble bay, studded with islands, nearly parallel with the bay of Dornoch. On its shore is the projected settlement of Ullapool, to which every patriot must wish success. Next are the En and the Gare, the Torridon, the Kessern, and others of smaller note. Argyleshire exhibits the Sunart, a long inlet, which terminates at Strontian; and the Linny, extending to Fort William. The Etif is impeded by a singular cataract, at its entrance into the sea. The small inlet of Crinan attracts observation, by the promised canal; and the list is closed by Loch Fyne, and Loch Long, forming vast inlets from the estuary of Clyde.

**LAKES.]** Among the lakes of Scotland, the chief in extent and beauty is that of Lomond, studded with romantic islands, and adorned with shores of the greatest diversity. The isles are supposed to form part of

the Grampian chain, which here terminates on the west. The depth of this lake in the south is not above twenty fathoms; but the northern creek, near the bottom of Ben Lomond, is from sixty to eighty fathoms.

On the east of Lomond is an assemblage of curious lakes, the Ketterin, or Cathin, the Con, or Chroin, the Ard, the Achray, or Achvary, the Vanachor, the Lubnaig; exhibiting singular and picturesque scenes, called by the Highlanders the *Trafuchs*, a word signifying rough, or uneven grounds\*. This denomination is strictly applicable to the surrounding hills and rocks of distorted forms, as if some convulsion had taken place, but often covered with heath, and ornamented, even to the summits, with the weeping birch. The hills are of argillaceous schistus; in other words, in strata of coarse slate, mostly vertical, and interspersed with veins of quartz. Ketterin, or Cathin, is a lake of considerable extent and beauty, with some rocky isles, and crowned by the mountain of Ben Veney: the fish are trout and char. Vanachor has salmon and trout; but Achray only pike.

In the vicinity is the lake of Menteith, a beautiful small lake, about five miles in circumference, with two woody isles, one presenting the ruins of a monastery, the other those of a castle of the old Earls of Menteith.

Having thus briefly described the principal lake and some others in its vicinity, it may be proper to observe, before proceeding to others in a more northerly situation, that the S. W. region of Scotland, anciently called Galloway, contain several picturesque lakes (which in Great Britain and Ireland seem always to accompany groups of mountains), though not of equal extent and celebrity with those of the north. The most considerable is the lake of Ken, in the county of Kirkcubright, on which stands a village, called New Galloway. This lake is decorated with three small isles. Next is that of Croy, on the borders of Wigtonshire. In the county of Ayr, there is a small lake, called Loch Dolen.

Returning towards the north, Loch Leven, in Fifeshire, attracts observation from its historical fame. The lakes in the south of Perthshire have been already mentioned, and to the east must be added Loch Ern, Loch Tay, and those of Rannoch, Lydoch, and Erycht. That of Tay, in particular, is a grand and beautiful expanse of water, of such length, as rather to resemble a noble river; and at its eastern extremity are placed the capital mansion and plantations of the Earl of Braidalbin.

Loch Ness rivals Loch Tay in extent and reputation. The depth is from sixty to 135 fathoms, the fish excellent trout†. Its great depth is the cause why it never freezes. It is remarkable that the bed of this lake, and in general of the watery chain which extends to Loch Linney, is filled with pudding-stone, hills of which occur near Dunolla and Dunstaffnage, on the western shores of Argyle. The counties of Sutherland and Caithness contain many small lakes. The chief are Loch Lail, which sends a stream into the bay of Far; and Loch Shin, a considerable lake, twenty miles in length, but on account of its windings the eye can only command a few miles at a time. From its south-east extremity issues the river Shin, in two broad cascades.

In the western division of Scotland Loch Awe, in Argyleshire, is the most considerable lake; it is about thirty miles in length, and from one

\* Garnet's Tour, ii. 173

† Pennant's Tour.

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to two in breadth; and is studded with many small, woody isles, one of which bears the ruins of a monastery, and another those of an ancient fortress, the residence of the Campbells of Lochawe, afterwards Dukes of Argyle. This lake empties itself, by a considerable stream, near its northern end, into the creek called Loch Etif.

But the chief distinctive feature of Scotland consists in its numerous mountains, which intersect the country in various directions. In the south-west, the ancient province of Galloway presents an extensive assemblage of hills, which seldom describe any uniform chain, from the bay of Glenluce, which extends towards Loch Ryan, and thence in a N. E. direction to Loch Doon, the source of the river of the same name. Other ridges run in various directions, generally north and south, according to the course of the rivers, till we arrive at the Nith, near which is Cruffel, a detached summit of considerable height. According to General Roy, than whom there cannot be a better authority, the mountains of Galloway form a connected chain with those of Cheviot on the N. E.

But the chief elevation of this part of Scotland is that metaliferous ridge in its very centre, called the Lead Hills. The small stream of Elvan conveys particles of gold to the Clyde, and German miners are said to have discovered considerable quantities of that precious metal. The chief summit of this ridge is Hartfell, which, according to some accounts, is 3300 feet above the level of the sea; but by others 2582. To the east we find the uniform ridge of Lamermoor, terminating in St. Abb's Head. The hills of Pentland, on the south of Edinburgh, are rather picturesque than important. Berwick Law, and the romantic summits, in the vicinity of Edinburgh, close the list of the southern hills. The Lead-hills chiefly consist of argillaceous schistus; but the grey granite abounds in the mountains of Galloway. In all, however, the chief portion seems to be calcareous; the summits are round, some verdant, others covered with heath. The red granite, and other grand Alpine rocks, seem here unknown. In the Lothians the calcareous strata support vast masses of whin, trap, and basalt, which extend to the northern shore of the Firth of Forth.

On passing the Forth appears the range of Ochill-hills, more remarkable for their singular agates and calcedonies, than for their height. On the north-east of Aberdeenshire is Mormond, a remarkable solitary summit; whence no mountains of note occur till Inverness, on the west, opens the path to the Highlands. Yet it must not be forgotten, that from the lofty promontory of Trouphead to Portsoy, extend vast masses of beautiful red granite, interspersed with schorl; and of serpentine with steatites, and other valuable stones. Before leaving the Lowland hills, it may be observed, that the small ridge in Fifeshire, between the Eden and Leven, called Loman hills, consists mostly of hard free-stone, with superincumbent strata of whin and basalt.

The Grampian hills may be considered as a grand frontier chain, extending from Loch Lomond to Stonehaven, and forming the southern boundary of the Highlands, though four or five counties on the north-east of that chain have, in their eastern and northern parts, the name and advantage of Lowlands. The transition to the Grampian is gradual, the first chain, according to General Roy, consisting of the Saddle-hills on the east, the Ochils in the middle, and Camply-hills on the west. To the Grampian chain belongs Ben Lomond (3262); Ben Ledy (3009); Ben More (3903); Ben Lawres, the chief summit (4015); Shihallion (3564); Ben Vorlich (3300); and other less im-



portant elevations on the east. Mount Battock, in Kincardineshire, is 3465 feet. Ben Cruachan, in Argyleshire, is a solitary mountain, 3300 feet above the sea.

Ben Nevis is the highest mountain in Great Britain, being estimated at 4350 feet above the level of the sea, not much above a quarter of the height of Mont Blanc. This mountain has not hitherto been explored by any mineralogist. On the N. E. side it presents a precipice, nearly perpendicular, and of prodigious height, by some accounts 1500 feet. The view from the summit is grand\*, exhibiting most of the western Highlands, from the paps of Jura, to the hills of Cullen, in Skey; on the east it extends to Ben Lawres, in Perthshire, and the river Nefs; extent of view about eighty miles. The superior half of the mountain is almost destitute of vegetation.

It would be difficult to divide the remaining mountains of the Highlands into distinct lines or groups; they shall, therefore, be briefly mentioned in the order of proximity. To the N. W. of Ben Nevis is the long mountain of Corriarok, near Fort Augustus, over which a military road has been directed in a zig-zag direction. From the foot of this mountain arises the rapid river Spey; and other streams run to the west, circumstances which indicate great elevation. About thirty miles to the east rises the mountain Cairngorm (4060 feet) or the blue mountain, clothed with almost perpetual snow, and remarkable for quartz of different colours, chiefly the smoaky kind, well known to lapidaries. The other chief mountains in this region are those of Braemar, or Scairfoch, at the source of the Dee; Ben Awn, and many of smaller height, such as Benibour†, Benachie, &c.

In the second division of the Highlands, which lies beyond Loch Linny and Loch Nefs, the mountains are yet more numerous, but not so memorable. The western shore, in particular, is crowded with hills, from the island of Skey to Cape Wrath, while a branch spreading eastward towards Ord-head (1250 feet) forms, what are termed by seamen, the Paps of Caithness (1929 feet). The chief mountains on the west of Ross-shire are, Ben Chalkar, on the south of Loch Broom; and Ben Nevis (3720 feet).

On proceeding to the most northern parts of Scotland, the counties of Sutherland and Caithness, first occurs Ben Ormoid; then extends the chain called the Paps, consisting of the mountains Morben, Scuraben, &c. from which run in a northerly direction, according to the course of the rivers, inferior chains. The N. W. extremity of Scotland presents some pleasant vales towards the sea, and inland that of Dornadilla, and an elevated plain on the west of Loch Loial, called Dirrymore forest‡: further to the west no names occur except that of Cape Wrath, and the region is described by an intelligent traveller in the following terms ||:

"But a wide extent of desert country lay before us, and exhibited  
"a most august picture of forlorn nature. The prospect was alto-  
"gether immense, but wild and desolate beyond conception. The  
"mountains presented nothing to view but heath and rock; between  
"them formless lakes and pools, dark with the shades thrown from

\* Statist. Acc. viii. 414.

† Always covered with snow, and, perhaps, as Mr. Aikin conceives, higher than Cairngorm. At about the height of 4000 feet, snow remains all the year in Scotland.

‡ Cordner's Letter to Pennant, p. 111.

|| Ibid. 104.

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"prodigious precipices, gave grandeur to the wilderness in its most gloomy forms."

Having thus explained, at some length, the directions and positions of the Scottish mountains, because they constitute the most remarkable feature of the country, and yet have never received due illustration, their constituent parts remain to be briefly examined\*. On entering the Highlands, near Dunkeld, the first ridges are alluvial hills of gravel, containing pebbles of micaceous schistus, quartz, and granite. The rocks immediately to the north of Dunkeld are composed of micaceous schistus, penetrated in every direction by veins of quartz. From the junction of the Tay and Tummel, westward to Loch Tay, the northern bound of the vale is of the same substances, sometimes interspersed with garnets. The whole summit of the higher chain is covered with large round masses of granite. The southern shores of Loch Tay consist of micaceous schistus, with a few garnets, interrupted about the middle with banks of compact bluish grey lime-stone. The northern shores are similar, but the lime-stone is micaceous. The mountains in Glenlochy are mostly of micaceous schistus, interspersed with garnet; Glen Lyon presents small veins of lead. The vale of Tummel, between Loch Tummel and Loch Rannoch, is overspread with rounded fragments of granite and micaceous schistus, but contains granitoid, and some granite. The lower part of Glen Tilt chiefly exhibits micaceous schistus; the upper, principally granite and lime-stone.

Such are the most southern parts of the Highlands. In the west, towards Ben Lomond, micaceous schistus also abounds; but that mountain is chiefly of gneiss, and the like features are found in the peninsula of Cantire. In the north of Argyleshire appears the beautiful red granite, which chiefly constitutes the central chain, already indicated; to the north of which first appears micaceous schistus, and afterwards a remarkable course of pudding-stone, extending from Loch Ness to Oban. The mountains in the north have been little explored; but Mr. Jameson tells us, that the coast is chiefly a coarse argillaceous sand-stone, often appearing in the form of flags, while in some places are masses of breccia, being pebbles of red granite, micaceous schistus and quartz, in arenaceous bases. Mount Scuraben is sand-stone, with a summit of white quartz. Morben, and other mountains in this district, from their white colour, seem to be of the same composition. About the Ord of Caithness appear granite and micaceous schistus.

The central and western parts of Sutherland and Ross-shire have not been explored; but it would seem that the west of Sutherland is chiefly primitive lime-stone. The mountains seem to be of granite and micaceous schistus, but often present the singular feature of vast summits formed of white quartz. Near Loch Broom is found that sort of granite which is best adapted for mill-stones.

Upon the whole it would appear, that the chief, or granitic chain of the Scottish mountains, extends in a S. W. and N. E. direction, from Ben Nevis to Portsoy. In many parts it has sunk or subsided, as is not unusual, but the line is marked by the gradual transitions from lime-stone and sand-stone to micaceous schistus, and thence to granite. Ben Nevis, Cairngorm, and other lofty summits, mark this primitive chain. The Grampians, which form the outer skirt of this chain, consist, according to a German mineralogist †, of micaceous lime-stone, gneiss, porphyry,

\* Mr. Aikin's Notes.

† Kirwan's Geol. Essays, 481.

slate, and granite, alternating with each other: and another German says, that the fundamental rock of the country consists of granitic aggregates. The mountains in the S. W. are chiefly schistose, and the granite is grey, and of an inferior kind; but Mr. Williams informs us, that Ben Nevis, and other mountains in that quarter, are composed of elegant red granite, in which the pale rose, the blush, and the yellowish colours, are finely mixed and shaded\*. The like granite is found at Portsoy and Troup-head, and is probably continued through the whole chain, the superior height of the region being marked by the extreme rapidity of the river Spey. This tendency of the leading chain is not only marked out by the Grampians, but by that of the islands, and of the grand chain in Norway, which, indeed, seems a continuation of the Scottish chain; and the last, probably, contains silver as well as the Scandinavian. The mountains on the N. W. of the lakes Ness and Linny, are probably only exterior skirts of the same chain, and present the usual declension of micaceous schistus, terminating in lime-stone and sand-stone, in the northern parts of Sutherland and Caithness. The islands of Shetland chiefly present micaceous schistus, interspersed with a few masses of granite; and the Orkneys, &c. consist mostly of sand-stone. The western islands may be supposed to be chiefly calcareous. It is remarkable that the space from Inverness to Dunolla, on the west, abounds with pudding-stone, composed of pebbles of quartz, probably washed down from the granitic chain, and afterwards cemented by some unknown process of nature, either by iron or siliceous earth.

General Roy mentions two remarkable features of the Highlands: first, the moor of Rannoch, a high desert of twenty miles square, on the S. E. of Ben Nevis, a flat uninhabited morass. The second is part of the N. W. coast extending from Loch Inchard, twenty-four miles to the south, breadth about ten miles, which presents a most singular appearance, as if mountains had been broken into fragments, interspersed with pools of water.

**FORESTS.]** The forests of Scotland are very rare, in the proper acceptance of the term; and the *Sylva Caledonia* has long since vanished. The whole county of S. Kirk was formerly denominated *Ettrick forest*. There was also a considerable forest, that of *Mar*, in the west of Aberdeenshire, where now remains the forest of *Abernethy*†, extending to *Cairngorm*. In the county of Sutherland was the forest of *Sletadale*, on the north of *Dunrobin*, the seat of the earls of Sutherland; and in the north of the same county, are marked *Pass-forest*, between *Ashir* and *Dunan*; to the south of which were *Reay Forest*, or that of *Dirrymore*: with those of *Dirrymore* and *Dirrymena*, on the north and south of *Loch Schin*. No other forest occurs till we reach the county of *Argyle*, which contains *Boachultive forest* on the north.

**BOTANY.]** Having given a general account of the indigenous plants of England, it will suffice, for the botany of Scotland, to point out the particulars in which the two floras differ, together with the cause of the difference.

\* *Mineral King*. II. 11. From a paper read by Dr. Macknight, at a meeting of the *Wernerian Society* of Edinburgh, March 1810, it appears, that the base of *Ben Nevis* is of gneiss and mica-slate, which is followed by the *tynite* of *Werner*, or a mixture of *felspar* and *hornblend*: while the superior portion of a dark grey colour seems to approach to compact *felspar*, intimately mingled with *hornblend*.—*Nicholson's Journal*, May, 1810.

† *NEW*. of *Moray*, *Aber*. 1798. 8vo. p. 267.

The northern part of Britain differs from the southern as to climate, it being colder and more rainy; and as to soil, in consisting chiefly of mountainous, granitic, or micaceous districts, the highest peaks of which are buried in perpetual snow. There are no chalk-hills in Scotland; nor any of that soil which characterises the south-eastern part of the island, and is composed, for the most part, of sand and calcareous marl. We might therefore, *a priori*, expect to meet with more alpine plants in Scotland than of those which flourish best in a light, chalky soil, and in a mild climate; this is found to be in fact the case. The greater number of vegetable species is the same in both countries; but the warm, moist region of Cornwall, Devonshire, and Dorset; the range of chalk-hills on each side of the valley of the Thames; the dry, sandy tracts of Norfolk, Suffolk, and Cambridge, and the fens of Lincolnshire contain many plants that are unknown to Scotland: as, on the other hand, the snowy summits of the Grampians, the extensive forests of Badenoch and Braemar, and the bleak, shelterless rocks of the Hebrides, possess many hardy vegetables which are not to be found in England. South Britain contains a greater number of species peculiar to itself; but those that are similarly circumstanced in the northern part of the island, are of more frequent occurrence, and therefore more characteristic: to the English botanist, Scotland will have more the air of a foreign country than England will to a Scottish naturalist. Amidst the grand romantic scenery of the Highlands the search of the English botanist is continually solicited and repaid by the appearance of plants, either altogether new to him, or which he has been accustomed to consider as the rare reward of minute investigation. In traversing the vast natural forests of birch and pine, although his notice will be first attracted by the trees themselves, in every stage of growth, from the limber sapling to the bare and weather-beaten trunks that have endured the storms of five or six hundred winters, yet the new forms of the humbler vegetables will soon divide his attention: the red and white blossoms of the trailing *Linnaea*, the *Pyrola secunda*, and *uniflora*, *Satyrium repens*, *Ophrys ceratophylla*, and *Convallaria verticillata*, will each attract their share of regard. The moist and shady recesses of the slate mountains are carpeted by the three *Veronicas*, the *Alpina*, the *fasatilis*, and *fruticulosa*. The mountainous districts of granite are peculiarly rich in alpine plants; the ledges and crevices of the rocks are adorned by tufts of the golden cinquefoil, and luxuriant festoons of the *Arbutus alpina*, and *Arbutus uva ursi*, glowing with their scarlet and deep blue berries among their glossy leaves. The cloud-berry, and some of the *lichens*, flourish amidst the snow and solitude of the most elevated summits; and afford at the same time shelter and food for the Ptarmigan, almost the only one of our native birds that can inhabit so cold a situation. The Lowlands of Scotland seem to contain no plants which are not found in similar soils in England; the sea-coast, however, exhibits two unbelliferous vegetables: the *Ligusticum Scoticum*, and *Imperatoria Ostruthium*, which cannot be met with on the southern shore.

**ZOOLOGY.]** The Zoology of Scotland presents little remarkable, as distinct from that of England. The small horses of Galloway seem to have been a primitive breed, and, in diminutive size, are exceeded by those of Shetland. The cattle in Galloway are often without horns, a defect which is supposed to be recompensed by the superior quantity and quality of the milk. The kyllies, as already mentioned, are a middle-sized breed from the province of Kyle, and other districts of Ayrshire and Galloway. On the east are found large cattle of various breeds.

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The sheep are smaller and shorter than those of England; those of Shetland are remarkable for the fineness of the wool, which is, however, interperfed with coarser piles. Goats are not so numerous in the Highlands and ifles as might be expected.

Of wild animals, the wolf has been extirpated in Scotland only fince the year 1680. The wild cat is still occasionally found; the other classes correfpond with those of England, except that the Roe is still not unfrequent. Among the birds, eagles are not unknown, nor elegant falcons. The shores and iflands present numerous kinds of sea-fowl.

Scotland abounds with fish of all kinds, and contributes great supplies to the English market, particularly in lobsters and falmon. The transparent lakes, rivers, and rivulets, present a beautiful variety of fish; on the northern and western coasts are numerous seals. The whale sometimes appears, and the hasking shark frequently plays in the western inlets. Pearls are found in the rivers Teith and Ythan, in a large kind of mya or mufcle. Many beautiful zoophites, on the northern shores, have been found and introduced to public notice by Mr. Cordiner.

**MINERALOGY.]** The small quantity of gold found in Scotland has been procured from the Lead hills, which are mostly composed of coarse slate. None worth mentioning has been met with recently. The silver found in Scotland has hitherto been of little account: the chief mine was that at Alva, which has fince only afforded cobalt. Nor can Scotland boast of copper, though a small quantity was found in the Ochills, near Alva, with silver and cobalt: and it is said that the iflands of Shetland offer some indications of that metal. Copper has also been found at Colvend, in Galloway; at Curry, in Lothian; at Oldwick, in Caithness; and Kiffers, in Ross-shire.

The chief minerals of Scotland are lead, iron, and coal. The lead-mines in the south of Lanarkshire have been long known. Those of Wanlock-head are in the immediate neighbourhood, but in the county of Dumfries. Some slight veins of lead have also been found in the western Highlands, particularly Arran. Iron is found in various parts of Scotland; the Carron ore is the most known, it is an argillaceous iron-stone, and is found in flaty masses, and in nodules, in an adjacent coal-mine, of which it sometimes forms the roof. At the Carron works this ore is often smelted with the red greasy iron ore from Ulverston, in Lancashire, which imparts easier fusion, and superior value. Calamine, or zinc, is also found at Wanlock-head; and it is said, that plumbago and antimony may be traced in Scotland.

But the chief mineral is coal, which has been worked for a fucceffion of ages. Pope Pius II., in his description of Europe, written about 1450, mentions, that he beheld with wonder, black stones given as alms to the poor of Scotland. The Lothians, and Fifeshire particularly abound with this useful mineral, which also extends into Ayrshire; and near Irwin is found a curious variety called ribbon coal.

In passing to the less important minerals of Scotland, the new earth originally found at Strontian, and called after the name of the place, deserves the first notice. Fine statuary marble is found in Affynt, and the marble of T'ree ranks among the most beautiful varieties. Portfoy affords peculiarly fine serpentine, and the pebbles of Agate and Calcedony, in the neighbourhood of Dunbar, are much valued by the lapidaries.

**MINERAL WATERS.]** The mineral waters of Scotland are numerous, but none of equal fame with those of England. The chief are Moffat wells in the south, and those of Peterhead in the north.

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**NATURAL CURIOSITIES.]** Scotland, like other mountainous countries, abounds with singular scenes, and natural curiosities. The beautiful falls of the Clyde, near Lanark, have deservedly excited much attention. The beauties of Loch Lomond have been so often described, that it is unnecessary to repeat so trivial a theme. The rocks off the coast of Aberdeenshire often assume singular forms of arches and pillars, of which the Bullers of Buchan are the most remarkable; and the space from Trouphead to Portfey abounds in uncommon rocks, and singular marine productions.

## SCOTISH ISLES.

The islands that belong to Scotland are numerous and important, and fall naturally into three grand divisions: the Hebudes\*, or Western Islands; the Orkneys; and the islands of Shetland.

On passing the conic rock, called Ailfa, towards the north, two beautiful islands adorn the Firth of Clyde, those of Arran and Bute †. The first is about twenty-three miles in length, by nine in breadth, and has 7000 inhabitants. The chief place is the village of Ranza; and Brodie castle is memorable in history. The exports are black cattle and barley ‡. Mr. Jamefon has recently published an account of this island, particularly its mineralogy, from which it appears that it is a mountainous region: and Goatfell is near 3000 feet in height. The southern parts of the island present low and cultivated grounds.

Bute is about twelve miles in length, by four in breadth; inhabitants about 4000; the chief town is Rothsay, and in the vicinity is Mount Stuart, the ornamented residence of the Marquis of Bute, and worthy of the distinguished taste of the noble proprietor.

To the west of the Chersonese of Cantire, begin the Hebudes, or Western Islands, properly so called. The first is Ilay, about the same length as Arran, but nearly eighteen miles in breadth. Ilay produces many black cattle, which are exported, and sometimes passes as far as England ||; but the sheep are rare. Small herds are much used, as the country is not very mountainous. This isle belongs to Mr. Campbell, of Shawfield. Inhabitants about 7000. Lead mines were here discovered in the sand-stone, 1763; this lead is, as usual, mingled with silver.

Jura is divided from the last by a narrow sound; it is about twenty miles in length, but the breadth seldom more than five. It is one of the most rugged of the Hebudes, which, in general, are mountainous regions. The paps of Jura, a line of conic hills, present a singular appearance; they are on the western side of the island, and almost bare of vegetation §. The best crops are potatoes and barley; and the isle contains abundance of peat. The cattle are small, but the sheep excellent. The noted gulph or whirlpool of Breacan or Corryvreckan, is on the northern extremity of Jura ¶.

To the west of Jura are the isles of Oranfa and Colonfa; and the strait between them being dry at low water, they may be considered as one island, about ten miles in length. The soil is generally light and arable, producing barley and potatoes. The venerable ruins of the an-

\* This name was corrupted by Hector Boyce, into Hebrides.

† Pennant's Voyage, 168.

‡ S. A. xi. 278.

¶ Knox's View, ii. 451.

§ Statist. Account, vol. ix. p. 169.

¶ S. A. xii. 318.



cient monastery of Canons regular in Colonsa now exist no longer; but those of the curious priory in Oransa still remain\*.

The next isle of any consequence is that of Mull, one of the largest of the Hebudes, and surrounded with smaller interesting islands. Mull is about twenty-eight miles in length, by a medial breadth of about eighteen. An intelligent traveller informs us, that the population is about 7000†. On the N. E. is the new village of Tobermory.

The most curious objects in the vicinity of Mull are, Icolm-kill and Staffa. Hyona, or Icolm-kill, is about three miles long, by one broad, and is venerable as the primitive seat of Scottish literature and religion, founded by St. Columba in the sixth century. Its history and ruins have been often described; but it may be added, from a recent traveller, that the isle produces beautiful white marble, and large blocks of indurated featites.

Staffa, about six miles to the N. of Hyona, was first introduced to public notice by Sir Joseph Banks. Buchanan has mentioned the isle, but not its grand singularities, its beautiful basaltic columns, and one of the most surprising objects of nature, the vast basaltic cavern, called Au-ua-vine, or the harmonious grotto, either from a melodious sound, produced by the percussion of the waves at the furthest extremity, or from the exact order in which the columns are disposed‡. Height of the entrance fifty-six feet, breadth thirty-five, thickness of the exterior vault twenty. The depth, or length of the cavern is no less than 140 feet.

To the N. W. of Mull are the isles of Tirey and Col, the former producing a most beautiful marble, of a rose-colour, penetrated with small irregular chrystals of green hornblende, and which the French naturalists have, from the name of the isle called Tirite, no similar marble being any where found. Tirey is generally plain and fertile; Col, on the contrary, is rocky, but has several small lakes, replenished with fish.

Another group consists of Skey, in the Scandinavian styled Skua, and the surrounding isles. Skey is the largest of the Hebudes, being about forty-five English miles in length, and about twenty-two in breadth. Inhabitants about 15,200; chief exports black-cattle and small horses: the land, as usual in the Hebudes, rough and hilly. The houses are chiefly turf, covered with grass. The face of the country wild, heathy, and deluged with continual rains. To the south of Skey are the isles Rhum and Eig; and to the N. E. of Skey are Raza and Scalpa. The other isles in this group offer little memorable. Canna and Eig contain basaltic pillars, and in the former is Compass hill, which strongly affects the needle.

It now remains to give some idea of the exterior chain of the Western Isles, forming, as it were, a barrier against the Atlantic. Two small and remote isles have attracted considerable notice. The first is that of Rona, about twelve leagues to the N. W. of Cape Wrath, and about thirty leagues W. from the Orkneys. This little isle, with its companion Sulisla, or Bara, has almost escaped from the Scottish maps, being little known, and rarely visited. In the last century, Sir George M'Kenzie, of Tarbat, afterwards Earl of Cromarty, drew up a short account of

\* Stat. Acc. xli. 337.

† St. Fond, tome ii. p. 89.

‡ lb. tome ii. p. 59.

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Rona, from the oral information of inhabitants, at that time consisting only of five families\*.

The small isle of Hirta, or St. Kilda, must have attracted much notice, even in Lesley's time, for in his map he has represented it as about six times the size of Skey, while in truth it is only two miles and a half long, by one mile in breadth. St. Kilda is about twelve leagues to the west of North Vist; and has been repeatedly described, the singular and simple manners of its inhabitants having excited considerable attention.

Having thus briefly mentioned these remote and little visited isles, the plan here followed must be resumed by some account of Lewis, the principal island of the western chain. It is about fifty miles in length, by twenty in breadth. The face of the country consists of a heathy elevated ridge full of morasses from the S.W. to N.E.; but near the shores are several verdant vales capable of cultivation. The Harris, or south end of this isle, is still more mountainous, and presents what is called a forest, because some deer are there found. James VI. attempted to introduce industry into the Hebudes by planting a Dutch colony at Stornaway, in Lewis; but it was soon extirpated by the Inhabitants. Stornaway is, however, now a considerable and flourishing town, with an excellent harbour. Besides cottages, there are about seventy houses covered with slate. The seasons in Lewis are oppressed with rain, as usual in the western Highlands and isles; but there is a considerable fishery. The crops are oats, bigg, and potatoes; no trees will thrive except alder and mountain ash; and hardly a shrub appears: but there are many black cattle and sheep; nor is there any want of small horses.

To the south of Lewis is North Vist, about twenty-two miles in length from E. to W. and about seventeen in breadth N. to S., for recent discoveries have restored this isle to its proper form, among many other improvements which have taken place within these few years in Scottish geography. The face of the country corresponds in general with that of Lewis; and trees are equally unknown. Potatoes are generally cultivated. Westerly winds, with rain or fog, usurp two-thirds of the year. Lord Macdonald is the proprietor †.

The small isle of Benbecula, and some others, lie betwixt North and South Vist; the latter is about twenty-three miles in length N. to S. by about ten in breadth W. to E. The morassy central chain extends also through this isle; but to the east are dry hills covered with heath and verdure. The productions also resemble those of Lewis; and there are many small lakes full of excellent trout. Chief exports, black cattle and kelp. This isle is also naked of wood.

No account having appeared of the mineralogy of the exterior Hebudes, the author was anxious to remedy that defect, and applied to the noble proprietor the Earl of Seaforth, who is himself conversant with that science, and who kindly remitted some interesting materials. In the year 1800 there was privately printed at Edinburgh, a "Report of the Island of Lewis, and Estates of Kintail and Lochalsh, by the Rev. Mr. Headrick, contained in letters to the Right Hon. Lord Seaforth the proprietor;" from which the mineralogical portion shall be extracted.

\* Monro's Descript. of the W. Isles, in 1549. Edin. 1774. Duodecim., p. 63. The Stat. Acc. xix. 271, adds nothing.

† Stat. Acc. xii. 300.

" A vast body of breccia, or coarse plum-pudding stone, runs from the west of Arnish to beyond Grace. The stones of which it is composed have evidently been worn and rounded in the bottom of the sea. The harder species of this stone are cemented by siliceous and iron, which seem to have undergone a partial vitrification. In other parts, the cement is an indurated clay, which dissolves by the weather. In the peninsula about Aignish, and on the opposite shore, near Back, the cement is a red calcareous clay, or species of clay-marl, which slightly effervesces with an acid.

" Through this body of plum-pudding stone run various veins of spar of lime. There are also various veins of whinstone, running nearly from south to north. The most remarkable of these is one to the east of Grace, and which also appears on the opposite shore near Garrabost. It is composed of large cubical stones, arranged in the form of a regularly built wall. There is another remarkable dyke of this sort at Stornaway, on part of which the old castle stands. There it assumes the shape of rude columnar basalt.

" To the east of Grace, where this plum-pudding rock joins the granite, I found a body of limestone interposed betwixt them: also, below Garrabost, where the plum-pudding rock is cut off on that side, I found a vein of spar of lime. To these veins of limestone I impute the stalactites, and stalagmitic incrustations, which are found in the seal cove of Grace, and in many other caverns which the sea has formed along these coasts.

" At the head of the bay, south-east from Aignish, the plum-pudding stone exhibits a smaller grain, like red freestone, and is arranged in regular strata. All the plum-pudding rocks are stratified; though most of the strata are of great thickness, and many of them irregular. They are intersected by cracks, which run either from east to west or from north to south.

" The plum-pudding rock is cut off towards Chicken Point and at Garrabost by a very shattery species of lava, which includes veins of iron stone, and in some places of terras, or puzzolane earth. The same appears at Tolsta Point, and in some places on the west side of Ness.

" All the other rocks I have seen in Lewis are granites, of various species and qualities. Near Stornaway they are extremely shattery and full of cracks. Towards Birken Isles Loch, or Loch Erisfort, they become micaceous; towards Loch Dungeon, and in various parts of Loch Seaforth, they are arranged in thick strata, which might afford good stones for building. These rocks include many beautiful siliceous crystals, and nodules of chalcedony.

" All these rocks are intersected by veins or dykes of whin-stone, which run nearly from south to north, inclining a few points towards north-west and south-east. Some of these veins are decomposed by the weather. Others are composed of stones built into the form of a regular wall, like that at Grace, and a few affect a columnar form. Many of these veins, especially in the district of Uig, are filled with talcite, a very hard porous species of stone, of which they make mill-stones. In such cases, the interstices are filled with a soft species of talc, in small laminae, called here *Sherp's silver*.

" In the mountains of Uig are many veins of this soft talcky matter, and also in other places; for they all run across the country in the direction already specified.

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" With the whin-stone veins or dykes already mentioned, which intersect the rocks, are connected veins of spar of lime. Many of these also include veins of iron-stone, or ore of iron.

" The most curious veins of that sort are at Rebbock Head, and westward. There I found the most beautiful, regularly formed, and semi-transparent rhomboidal crystals of lime, both arranged in veins, and also in detached nodules, in the hollows of the rocks. In similar hollows I saw also nodules of chalcidony, which on one side adhered firmly to the rock, and even included loose chips of stone; on the other side they appeared blistery, like some metals which shrink after fusion.

Here also I saw a vast vein, composed of rounded stones, which are cemented by means of spar of lime, regularly crystallized.

" Besides the whin-stone and talcky veins which intersect the granite, there are innumerable veins of siliceous spar running in all directions. There are also veins of soft micaceous schistus, chiefly towards Loch Seaforth, which seem to indicate that veins of slate are not remote.

" The Schaut Isles are certainly the greatest curiosities my eyes ever contemplated; and were they known, men fond of viewing all that is grand and uncommon in the productions of nature, would come from the remotest corners of the world to see them.

" They consist of two ranges or strata of basalt placed above each other, with limestone, schistus, and a stratum that seems to be sulphur, or hepar of lime, interposed between them. This last stratum has always been taken for common limestone by the people, which it very much resembles; but it does not effervesce with acid, and contains thin veins of beautifully crystallized gypsum, formed from its oxygenation within its cracks and cavities.

" The limestone is of three colours, blue, whitish-grey, and sparry. Much of it is contaminated by martial pyrites, beautifully crystallized, and many of them indented into each other in a curious manner. The limestone, and several of the rocks contiguous to it, contain various species of sea-shells, petrified, and of the most perfect form. The limestone and other strata appear at various points along the north side of Garve Island. They appear also in the neck that joins a remarkable black rock with that island, where there is a commodious bay, with good anchorage.

" This black rock is a ledge of basalt, less perfectly formed than the mass which rests upon it. It is the basis, or inferior stratum, on which the columns of the Garve Island rest. It dips rapidly to the south-west, and rises to the north-east. This rock has a remarkable natural arch under it, which is the common passage for boats.

" Passing over to the Green Island, which projects a ledge of rock, covered by the tide, to meet the black rock, we find it wholly composed of the same sort of basalt with the latter. It every where affects a columnar appearance, though the columns are rude and ill-formed.

" On its north-west corner are seen all the strata of schistus and limestone, which run below the columns of Garve Island. On the south-west side the limestone projects like a vein; and there is here a vast mass of excellent clay marl, formed from its decomposition. Above this place a vast body of schistus is exposed to view: it resembles that which accompanies coal, only more indurated; and, like coal schistus, it contains many strata of iron-stone.

" The basaltic columns of Garve Island, though amazingly high, are not completely detached, with smooth surfaces and regular joints, as take place in basaltic columns of the most perfect kind. They have all a slight

a slight inclination towards the south-west, and are intersected by various cracks or planes, running mostly at an angle of  $45^\circ$  with the columns. A tail of rocks projects towards the south-west from Garve, which exhibits many whimsical varieties of basalt. In one rock they are waved, rising at an angle of about  $45^\circ$ , but are suddenly bent into a perpendicular ascent, without any visible fracture, or rupture of their continuity. In another rock they are thrown almost into a horizontal position, with the ends of the columns sticking out towards the north, as if the rock had been overturned by more than gigantic force. Two columnar rocks project boldly from the sea, resembling two massy square towers, which defy the fury of the waves.

"On the north-east corner of Donald Bane's Island, or Y-kill, which is joined to Garve by a narrow neck, there are several clusters of basaltic columns of the most perfect kind. They stand perpendicular, are perfectly smooth, extremely hard; are mostly five-sided, with their angles cut off; and are as perfect as if formed by the most skilful mason. They are regularly joined at the same horizontal elevation. Some ranges do not exceed eight or ten inches in height, from joint to joint; the rest are from three to four feet. The joints are most curiously formed: every lower piece has a smooth cavity on the upper end, which is exactly filled by the convexity of the piece which rests upon it. These basaltic rocks contain many nodules of zeolite, and various siliceous crystals.

"The soil of these islands, where it is not naturally wet, is excellent, and produces every species of sweet grasses without culture. The only exception to this remark is a part of the Green Island, where the soil rests upon the schistus already described. The soil formed from the decomposition of basalt is universally good."

The granite of the Lewis is of a vast variety of colour and grain, but chiefly black and red of a fine grain. In many places it is mixed with much mica, and with quartz, felspar, &c. in detached portions, where in some spots it contains great quantities of schorl. It is intersected with many dykes or veins of basalt. In the mosses or peat-moors, which are numerous, there is abundance of bog ore of iron. The isles of North and South Vist and Barrow are supposed to be of a similar structure with Lewis and Harris. In North Vist there is a large track of sea-sand, which might be valuable in making glass. It must not be forgotten that the isle of Lewis produces, in the parish of Nig, that scarce mineral molybdena. Dr. Walker has somewhere asserted, that the little isle of Bernero consists of amianthus, but this information seems to have been derived from some ignorant observer, who may perhaps have mistaken a decayed schorl for that substance.

The islands of Orkney and Shetland remain to be described. The Orkneys form a numerous group around the Main Land, or what, by some new and fabulous term, is called Pomona\*. The Main Land is about twenty-five miles in length E. to W. by about thirteen in breadth N. to S. Kirkwall, the chief town of the Orkneys, contains about three hundred houses, and has a stately cathedral dedicated to St. Magnus. Opposite stands the bishop's palace, now called a castle. The chief exports of Kirkwall are beef, pork, butter, tallow, hides, calf skins, rabbit skins, salted fish, oil, feathers, linen yarn, and coarse linen cloth, kelp†, and in fruitful years corn. The chief imports are

\* The old accounts are Wallace's 1693, and Brand's 1701; the modern, the Statistic Survey.

† Sauba produces great quantities of kelp; when the Orkneys in general may yield 2500 tons, 500 and 600 are drawn from that isle only. S. A. vii. 455.

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\* S. A. xx. 612.

† We have better land. Captain Donn the Main land consists of almost ninety maps. Donnelly's map Journal, May, 1799) represented in the E half a degree further. Ilished a map of these lately been published by † Jamefon's Min. G

wood, flax, coal, sugar, spirits, wines, tobacco and snuff, flour, and biscuit, soap, leather, hardwares, broad cloth, printed linens and cottons. In 1790 the exports were valued at 26,598*l.*, and the imports at 20,803*l.* The manufactures are linen yarn, and coarse linens, and kelp: this last was introduced about sixty years ago, and has been since diffused over the Highlands and isles. In most parts of the main land the soil is good, though shallow, with a calcareous bottom. The horses are small, but spirited; and the cows, though also small, yield excellent milk. The sheep in the islands of Orkney are computed at 50,000. Swine also abound, of a dirty white colour, and diminutive size. The numbers of sea-fowl may be easily imagined. The Norse language has yielded to the English, and the manners of the people are singularly civilized for so remote a region. The Ward hill of Hoy, the highest in this region (1620 feet), stands in the island of the same name, the S. E. promontory of which is erroneously called Walls in the English maps, instead of the native name Waes: near its bottom is the noted dwarfy stone, about 34 feet long, by 17 broad, and 8 high, hollowed out by art, probably for the residence of some hermit.

The inhabited islands of Orkney are computed at twenty-six, and the people at 23,053\*; the base is chiefly sand stone, as appears from Mr. Jameſon's recent Mineralogy of the Scottish isles.

The islands of Shetland present another group similar to those of Orkney, with a main land or chief island in its centre. The main land is much intersected by the sea; and is about fifty-seven miles in length, by about ten or twelve miles of medial breadth†. The other isles are generally small, yet twenty-six are said to be inhabited. "On viewing these islands in general, a wonderful scene of rugged, bleak, and barren rocks presents itself to our view. No tree or shrub is to be seen, to relieve the eye in wandering over these dreary scenes. Sometimes, however, a few scanty portions of cultivated ground catch the eye of the traveller, exciting emotions of pleasure, and forming a striking contrast to the barren heath-covered mountains which skirt them. The western part presents many scenes as wild and sterile as can well be conceived; grey rocks rising from the midst of marshes or pools, and shores bounded by awful sea-beat precipices, do not fail to raise in the mind ideas of desolation and danger.

"The coasts are in general rugged and precipitous, presenting in many places scenes truly grand and magnificent; vast rocks of various heights, dreadfully rugged and broken, opposing their rude fronts to all the fury of a tempestuous ocean; which in some places has formed great detached pillars, in others has excavated grand natural arches and caverns that mock all human magnificence, and strike the beholder with that awe and wonder which must affect every one on viewing these amazing wrecks of nature‡."

\* S. A. xx. 612.

† We have better charts of the coasts of New Holland than of the isles of Shetland. Captain Donnelly's chart of the Shetland isles seems the most accurate, in which the Main land corresponds in length with Lewis, while Ainsley's would give a length of almost ninety miles. Yell and Unst seem also more properly disposed in Captain Donnelly's map. The Danish Captain Von Lowenorn (Zach's Geographical Journal, May, 1799) found that the Shetland isles were about one-third shorter than represented in the English map (Preston's); which also puts the northern extremity half a degree further north than it was found by minute observations. Lowenorn published a map of these isles in 1787. An interesting account of the Shetland isles has lately been published by Dr. Edmonstone, 2 vols. 8vo.

‡ Jameſon's Min. p. 2, 3. 8vo.



Such is the animated description of a late writer ; who adds, that the east side of the main land, and other isles, is comparatively low, but the west lofty and rugged. This is well known to be the case with most mountains and islands, because the winds and tempests from the west have more power than those from the opposite quarter.

The hills in Shetland are chiefly composed of sand-stone, breccia, &c. The basis seems gneiss, and micaceous schistus, which are sometimes exposed to the air. Limestone is also found, and some granite ; but, on the whole, the mass is arenaceous.

The climate of the Shetland isles is variable, and disturbed with rains and thick fogs. The frosts are seldom severe, and snow rarely continues long on the ground. The inhabitants are indeed sufficiently wretched without additional evils ; and a benevolent government ought to pay a particular attention to those distant prisoners. The corruscations of the Aurora Borealis illuminate the long gloom of winter, and delight the inhabitants, who call them *merry dancers*. The arable land is mostly near the coast, and produces a coarse kind of oats and bigg. Potatoes have lately formed an addition of singular advantage. The chief food of the inhabitants consists of fish, and various kinds of sea-fowl, which cover the rocks : the captors of the last shew singular skill and intrepidity, and often meet with a violent fate amidst the stupendous precipices. The cattle are rather larger than those of Orkney, and the butter is excellent if properly prepared. Sheep are not uncommon, and have been recently praised for the fineness of their fleece. The horses have mettle and beauty, and, on account of the singular minuteness of their size, have become objects of luxury and curiosity in England.

Lerwick, the chief town, or rather village, containing about 150 families, stands on an excellent harbour called Braffa Sound, formed by the little isle of Braffa, on the east of the main land, and formerly greatly frequented by the Dutch fishers.

The chief exports of Shetland are fish of various kinds, chiefly herrings, cod, ling, and torfk, or tusk. The inhabitants of the Shetland islands in 1798 were computed at 20,186\*, more than the country can well support. In this distant region there are neither roads nor bridges, which may be pronounced the first steps in any country towards the progress of industry. The same deficiency occurs in the Orkneys, and even in the northern extremity of Scotland ; where, however, a road has been recently opened between Ullapool and Dornoch.

\* Stat. Acc. xi. 612.

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## IRELAND.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Names. — Extent. — Original Population. — Progressive Geography. — Historical Epochs. — Antiquities.*

NAMES.] THE large and fertile island of Ireland, being situated to the west of Great Britain, was probably discovered by the Phœnicians as early as the sister island, and it appears that the island was known to the Greeks by the name of Juverna, about two centuries before the birth of Christ. When Cæsar made his expedition into Britain, he describes Hibernia as being about half the size of the island which he had explored; and while the Romans maintained their conquests in the latter region, Ireland continued of course to be well known to them; and Ptolemy has given a map of the island, which is superior in accuracy to that which represents Scotland. Towards the decline of the Western Empire, as the country had become more and more known, and had been peopled with various tribes, the Romans discovered that the ruling people in Ireland were the Scoti; and thenceforth the country began to be termed Scotia, an appellation retained by the monastic writers till the eleventh century, when the name Scotia having passed to modern Scotland, the ancient name of Hibernia began to reassume its honours. It is supposed that this name, and the Gothic denomination Ireland, are mere modifications of the native term Erin, implying the country of the west.

EXTENT.] The extent of this noble island is about 300 miles in length, and about 180 at the greatest breadth. The contents in square miles may be computed at 27,457\*; and the population being about three millions, there will be about 114 inhabitants to each square mile.

ORIGINAL POPULATION.] It is probable that the original population of Ireland passed from Gaul, and was afterwards increased by their brethren the Guydil from England. About the time that the Belgæ seized on the south of England, it appears that kindred Gothic tribes passed to the south of Ireland. These are the Firbolg of the Irish traditions, and appear to have been the same people whom the Romans denominated Scoti, after they had emerged to their notice, by not only extending their conquests to the north and east in Ireland, but had begun to make maritime excursions against the Roman provinces in Britain.

PROGRESSIVE GEOGRAPHY.] The map of Ireland by Ptolemy above mentioned is the first geographical document of the island. The general shape, rivers, and promontories are delineated with as much accuracy as could have been expected. Nay, as we advance into the middle ages, the geography of Ireland becomes more obscure. The chief tribes mentioned by Ptolemy are the Darni upon the north-east, the Venicni and Robogdii on the north-west. Beneath them are the Nagnati, Auteri, and Gangani on the west, the Erdini in the centre,

\* Neaufort, p. 14, says, 20,000 English miles.



and

and the Voluntii, Eblani, and Cauci on the east; succeeded by the southern tribes of the Menapii, Brigantes, Bodii, Ivelni, Velabri, and Luceni. Ptolemy also mentions ten towns; of which the chief is Eblana, now Dublin. In the middle ages we find the Dalriadi on the north-east, and the Crutheni on the north-west. The large tribe of Nelli occupy much of the centre. The Voluntii seem transformed into the people of Ullagh; the Erdini of Ptolemy yield the name to Argialli; and the Nagnati to Maigh Nais. The Gangani of Ptolemy seem the Galeng of the middle ages. The Menapii, &c. must be traced in Munster, or present Munster. The towns mentioned by Ptolemy might also be traced with some degree of accuracy.

The ravages of the Danes, in the ninth and following centuries, cannot be supposed to throw much light on the progressive geography of Ireland; but the settlements of the English under Henry II. certainly contributed to that end, for Giraldus Cambrensis at that period composed his description of Ireland, which, amidst numerous fables, contains some curious facts; and the geography of Ireland was little better known till the reign of Elizabeth, when Stanihurst published his description, which was soon followed by that of Spenser the poet. The most remarkable distinction introduced by the new invaders into Ireland was that of the English pale, or circuit of a few counties around Dublin, within which the English language was chiefly spoken. So considerable, indeed, were the English possessions in Ireland, that the monarchs only assumed the style of Lords of Ireland, till the reign of Henry VIII. when King of Ireland became a part of the sovereign's style. Nor was Ireland completely subjugated till the reign of the first James, who adds this merit to that of founding the American colonies; but mankind will ever be infatuated by the triumphs of war, and prefer a meteor to the pure light of a pacific reign.

**HISTORICAL EPOCHS.]** The first historical epoch of Ireland is its original population by the Celtic Gauls, and the subsequent colonization by the Belgæ.

2. The maritime excursions of the Scoti against the Roman provinces in Britain.

3. The conversion of Ireland to Christianity in the fifth century, which was followed by a singular effect; for while the mass of the people retained all the ferocity of savage manners, the monasteries produced many men of such piety and learning, that Scotia or Ireland became celebrated all over Christendom.

4. This lustre was diminished by the ravages of the Scandinavians, which began with the ninth century, and can hardly be said to have ceased when the English settlement commenced. The island had been split into numerous principalities, or kingdoms as they were styled; and though a chief monarch was acknowledged, yet his power was seldom efficient, and the constant dissensions of so many small tribes rendered the island an easy prey.

5. In the year 1170, Henry II. permitted Richard Strongbow Earl of Pembroke to effect a settlement in Ireland, which laid the foundation of the English possessions in that country. There are however coins of Canute, king of England, struck at Dublin, perhaps in acknowledgment of his power by the Danish settlers.

6. Ireland began to produce some manufactures about the fourteenth century, and ker-sayes, or thin woollen cloths, were exported to Italy. It is probable that these were produced by the Bristolian colony, which had passed to Dublin, as mentioned in the description of England.

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\* See Ledwich's  
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7. Richard II. king of England, attempted in person the conquest of Ireland, but being imprudent and ill served, nothing of moment was effected. The subsequent attempts of the English monarchs to accomplish this purpose need not be enumerated.

8. In the reign of James I. Ireland became entirely subjugated; and colonies of English and Scots were established in the north.

9. The chief mean of the assimilation of the countries having been completely neglected, namely, the universal institution of parochial schools, for the education of children in the protestant religion and English language, the Irish continued a distinct people; and, being instigated by their fanatic priests, executed their dreadful massacre of the English settlers in 1641. This insurrection was not totally crushed till Cromwell led his veterans into Ireland.

10. The appearance of James II. in Ireland to reclaim his crown may also deserve a place.

11. The amazing progress of Ireland in manufactures and commerce, within these twenty years, may be classed as the most illustrious of its historical epochs.

12. The deplorable events which have recently happened in Ireland have led the way to its union with Great Britain; a measure which, it is eagerly to be hoped, will be productive of great reciprocal advantages.

ANTIQUITIES.] Upon a review of the more ancient of these historical epochs, and of the monuments which may be considered as belonging to each, it must be considered that the edifices having been constructed of wood till the eleventh or twelfth century, it cannot be expected that any remains of them should exist. Stone was chiefly employed in the construction of funeral erections of various kinds; nor are barrows wanting in Ireland, being hillocks of earth thrown up in commemoration of the illustrious dead. Other monuments, commonly styled Druidic, may also be found in Ireland; such as single stones erect, circular temples, or rather places of judgment, and the like, which may more properly be ascribed to the Belgic colony\*.

The conversion of Ireland to Christianity was followed by the erection of a vast number of churches and monasteries, the latter being computed to exceed one thousand in number; but all these edifices were originally small, and constructed of interwoven withes, or hewn wood; for St. Bernard, in the twelfth century, mentions a stone church as a singular novelty in Ireland.

But the Scandinavian chiefs must before this period have introduced the use of stone into the castles necessary for their own defence against a nation whom they oppressed. To the Scandinavian period also belong what are called the Danes Rathas, or circular intrenchments; and probably some chapels.

Of the eleventh and twelfth centuries many monuments, castellated or religious, may probably exist in Ireland. Brian Boro, king of Munster, having been declared sovereign of Ireland in the year 1002, distinguished himself by his virtues and courage; and Dermid III. A. D. 1041—1073, was also an excellent and powerful prince. Under these monarchs and their successors, Tudelvac and Moriartac, the power of the Ostmen, or Scandinavians, was considerably weakened. The native chiefs had been taught the necessity of fortresses, and were generally devoutly at-

\* See Ledwich's introduction to Grose's Antiquities of Ireland, for Cromlechs in the county of Carlow, and a cave in Meath.

tached to religion; it is therefore to be inferred that many castles, churches, and monasteries now began to be partly constructed in stone, by architects invited from France and England; but perhaps the round towers were erected by native builders.

The castles, churches, and monasteries erected since the period of the English settlement might be counted by hundreds, and for them one general reference may be made to the works of Ledwich and Grose. Among smaller reliques of antiquity, the golden trinkets found in a bog near Cullen, in the south, deserve mention; as gold was found in Gaul, they are perhaps ornaments of the ancient chiefs brought from that region.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Ecclesiastical Geography. — Civil Divisions. — Government. — Population. — Army. — Navy. — Revenues. — Political Importance and Relations.*

**RELIGION.]** THE legal religion of Ireland is that of the church of England; but it is computed that two-thirds of the people are Catholics, and of the remaining third the Presbyterians are supposed to constitute one half.

**ECCLESIASTICAL GEOGRAPHY.]** The ecclesiastical geography of Ireland comprizes four arch-bishoprics, in themselves an evidence of the great number of churches formerly existing; and eighteen bishoprics.

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| Under the archbishop of Armagh<br>are the bishops of | Meath                 |
|                                                      | Kilmore and Ardagh    |
|                                                      | Dromore               |
|                                                      | Clogher               |
|                                                      | Raphoe                |
|                                                      | Downe and Connor      |
| Under the archbishop of Dublin                       | Derry                 |
|                                                      | Kildare               |
|                                                      | Ferns and Laughlin    |
|                                                      | Osory                 |
| Under the archbishop of Cashel                       | Waterford and Lismore |
|                                                      | Limerick              |
|                                                      | Killaloe              |
|                                                      | Cork and Ross         |
| Under the archbishop of Tuam                         | Cloyne                |
|                                                      | Elphin                |
|                                                      | Cloyne                |
|                                                      | Killala and Achonry*. |

The catholics have also a hierarchy nearly similar, but the metropolitans and bishops are considered by the protestants as merely titular. The presbyterians, though here dissenters, partake in some degree of the nature and privileges of an establishment. They are chiefly descended from the Scottish presbyterians and English puritans, whom James I. encouraged to settle in Ulster. The presbyterian form of government is in some degree retained, and the ministers of nearly all the presbyte-

\* Gough's Camden, iii. 487. The primacy is worth 8000l. a year, Derry 7000l. the other bishoprics from 4000l. to 2000l. Young, ii. 189.

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rians meet annually in the synod of Ulster, in which all the general concerns of the body are discussed. The number of presbyterians is estimated at half a million. Since the repeal of the test act they are free from all those restrictions to which the dissenters in England are subject.

**GOVERNMENT.]** The government of Ireland was constructed upon the plan of that of England, being vested in the house of commons, and another of peers, while the king was represented by a lord lieutenant or viceroy. But no act of importance was considered as valid, till it received the sanction of the king and council of Great Britain. At present Ireland being united to England, the form of government is of course identically the same. There are some minute variations between the statute and common laws of Ireland and those of England.

**CIVIL DIVISIONS.]** Ireland is primarily divided into four provinces, viz. Ulster to the north, Connaught to the West, Leinster to the East, and Munster to the South. The subdivisions are counties, of which the following is a list:

|              |             |             |                |
|--------------|-------------|-------------|----------------|
| In Ulster    | Antrim      | In Leinster | Louth          |
|              | Down        |             | Meath          |
|              | Armagh      |             | Dublin         |
|              | Tyrone      |             | Wicklow        |
|              | Londonderry |             | Wexford        |
|              | Donegal     |             | Kilkenny       |
|              | Fermanagh   |             | Carlow         |
| In Connaught | Cavan       | In Munster  | Kildare        |
|              | Monaghan    |             | Queen's-county |
|              | Leitrim     |             | King's-county  |
|              | Sligo       |             | Westmeath      |
|              | Roscommon   |             | Longford       |
|              | Mayo        |             | Clare          |
|              | Galway      |             | Limerick       |
|              |             |             | Kerry          |
|              |             |             | Cork           |
|              |             |             | Waterford      |
|              |             |             | Tipperary      |

**POPULATION.]** The population of Ireland has been variously stated. Many contend that it does not exceed three millions, while others swell it to above five millions. As the number of houses, according to the official return of 1791, was above 700,000, allowing six inhabitants to each house, it would exceed five millions, which is probably much below the real number.

**ARMY.]** Besides large contributions to the British army, Ireland in 1780 raised upwards of 40,000 volunteers, and has recently equipped a considerable militia and yeomanry. If we suppose every eighth person capable of arms, Ireland might raise a force of more than 500,000 men. Of mariners Ireland contributes a respectable proportion, and many naval officers from this part of the united kingdom have distinguished themselves by their courage and skill.

**REVENUES.]** The public revenues of Ireland were computed by an intelligent traveller \* at about one million sterling, or 6s. 8d. a head, when those of England stood at 1s. 9s. This was in 1778, and great changes have taken place since. In the year ending 5th January 1805, according to an account laid before the House of Commons, the sum

\* Young's Tour in Ireland.



raised for Ireland exceeded ten millions, of which 4,729,406*l.* was the net produce of the ordinary revenue, and the rest was procured by a loan. By the terms of the Union Ireland pays 2-17ths of the general expences of the empire, and this sum, in the same year, amounted to 5,081,474*l.*

**POLITICAL IMPORTANCE, &c.]** The political importance and relations of Ireland are great, but intimately blended with those of England; while her western position imparts singular advantages in the commerce with America and the West Indies.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Inland Navigation.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** SPENSER the poet, in his view of the state of Ireland, has preserved several curious particulars concerning the national manners in the reign of Elizabeth. As that work, though sanctioned by an illustrious name, is little read, two specimens shall be transcribed; one concerning what were then termed the Irish horse-boys, and the other giving some account of the bards. After describing the savage manners of the Gallow-glasses or infantry, and the Kernes or predatory cavalry, that venerable writer thus proceeds:

“And now next after the Irish Kernes, methinks the Irish horse-boys would come well in order; the use of which though necessity (as times now be) do enforce, yet in the thorough reformation of that realm they should be cut off. For the cause why they are now to be permitted, is want of convenient inns for lodging of travellers on horseback, and of ostlers to tend their horses by the way. But when things shall be reduced to a better pass this needeth specially to be reformed. For out of the fry of these rake-hell boys, growing up in knavery and villainy, are their kerns continually supplied and maintained. For having once been brought up an idle horse-boy, he will never after fall to labour, but is only made fit for the halter. And these also (the which is one foul oversight) are for the most part bred up amongst the Englishmen; of whom learning to shoot in a piece, and being made acquainted with all the trades of the English, they are afterwards when they become kern, made more fit to cut their throats. Next to this is another much like, but much more lewd and dishonest, and that is of their Carrows, which is a kind of people that wander up and down to gentlemen's houses, living only upon cards and dice; the which though they have little or nothing of their own, yet will they play for much money; which if they win, they waste most lightly; and if they lose they pay as slenderly, but make recompence with one stealth or another; whose only hurt is not that they themselves are idle lossels, but that through gaming they draw others to like lewdness and idleness. And to these may be added another sort of like loose fellows, which do pass up and down amongst gentlemen, by the name of jesters, but are (indeed) notable rogues, and partakers not only of many stealths, by setting forth other men's goods to be stolen, but also privy to many traiterous practices, and common carriers of news.”

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After delineating the dissolute life of an Irish chieftain, Spencer thus introduces the bards:

"In which if he shall find any to praise him, and to give him encouragement, as those bards and rithmers do, for little reward or a share of a stolen cow; then waxeth he most insolent, and half mad with the love of himself, and his own lewd deeds. And as for words to set forth such lewdness it is not hard for them to give a goodly and painted shew thereunto, borrowed even from the praises which are proper to virtue itself. As of a most notorious thief and wicked outlaw, which had lived all his life-time of spoils and robberies, one of their bards in his praise will say, that he was none of the idle milkops that was brought up by the fire side, but that most of his days he spent in arms and valiant enterprizes; that he did never eat his meat before he had won it with his sword; that he lay not all night slugging in a cabin under his mantle, but used commonly to keep others waking, to defend their lives, and did light his candle at the flames of their houses to lead him in the darkness; that the day was his night, and the night his day; that he loved not to be long wooing of wenches to yield to him, but where he came he took per force the spoil of other men's love, and left but lamentations to their lovers; that his music was not the harps, nor lays of love, but the cries of people, and clashing of armour; and finally, that he died not bewailed of many, but made many wail when he died that dearly bought his death."

The manners of the superior classes of people in Ireland now nearly approach to the English standard, except that excess in wine, unfashionable in England, continues to prevail too much in the sister island. The Irish gentry are also seldom addicted to literature or the arts; but amuse themselves with hunting and other robust exercises. Hence an overflow of health and spirits; and the observation of an able writer, that Ireland produces the stoutest men and the finest women in Europe, must not be confined to the inferior classes. The common people of Ireland still retain too many features of national manners. A funeral is joined by all the men and women of the vicinity, and is accompanied with dreadful howls, and other barbarous ceremonies. Their diet consists chiefly of potatoes and buttermilk; and the rural cottage is a wretched hovel of mud. The favourite liquor is usquebaugh, or the water of life; but more properly the water of death, being an ardent and pernicious distillation from corn.

The English language daily gains ground in Ireland, and might, if proper attention had been bestowed on the national education, have become, ere now, the general idiom of the country. The ancient Irish is a dialect of the Celtic intermingled with many Gothic words, imported by the Belgic colonies, by the Scandinavians, and by the English.

The Lord's prayer in the Irish idiom runs in the following terms:

*Ar nathair ata ar Neamb. Naombthar Hainm. Tigeadh do Ríoghachd, Deantar do Thóil ar an Tsalámb mar do nithear ar Neamb. Ar naran la cathambail dtabhair dhuinn a níu. Agus maith dhuinn ar Bhfiacha mar mbaitimidne dar bhfiethamhnuibb fein. Agus na léig sinn a cathugbadh. Achd fáir sin no Ole. Amen.*

LITERATURE.] The literature of Ireland has a venerable claim to antiquity; for, as has been already mentioned, in the centuries immediately following the introduction of Christianity many writers arose, whose works consist of lives of saints, and works of piety and discipline, presenting to the inquisitive reader many singular features of the history of the human mind. The chief glory of the ancient Irish literature arises from

from the repulsion of the rays of science, after it had almost perished in Europe, on the fall of the Roman Empire in the west. The Anglo-Saxons, in particular, derived their first illumination from Ireland; and in Scotland literature continued to be the special province of the Irish clergy, till the thirteenth century.

**EDUCATION.]** In no quarter of the British dominions has education been conducted upon a more solid and rational plan than in Scotland; and no where has it been so much neglected as in Ireland. It is to be hoped that one consequence, and not the least important of the Union, will be the introduction of parochial education into Ireland, a sure mean of preventing the ebullitions of ignorant discontent.

**UNIVERSITIES.]** With four archbishops Ireland only possesses one university, that of Dublin\*. This institution was first projected by archbishop Leech, about the year 1311; but death having interrupted his design, it was revived and executed by Bicknor his successor, and enjoyed moderate prosperity for about forty years, when the revenues failed.

In the reign of Elizabeth the university was refounded by voluntary contribution, under the auspices of Sydney the Lord Deputy. It consists of a chancellor, vice-chancellor, provost, vice-provost, twenty-two fellows, and thirteen professors of various sciences. The number of students is commonly about six hundred, including seventy on the foundation. The building consists of three quadrangles, and it contains a library of some account, and a printing-office.

At Maynooth there is a royal college for the education of young men of the Romish church. There are many endowed schools in Ireland, of which that at Kilkenny is one of the best. The education of the higher and middle ranks is as much attended to as in England, and schools of all descriptions are rapidly improving.

The Dublin Society for the improvement of Agriculture and Manufactures was instituted by the efforts of the patriotic Dr. Samuel Madden in 1731, being the earliest of the kind now existing in Europe†.

**CITIES AND TOWNS.]** Dublin, the capital city of Ireland, seems to be the Eblana of Ptolemy; but continued little known till the tenth century, when it was mentioned in the Saxon chronicle; and in the beginning of the next century, we have coins of Canute struck at Dublin. The situation is delightful, in a bottom, between ranges of hills on the south and north. It is pervaded by the river Liffy, and by some rivulets. The inhabitants have been estimated at 170,000; this capital being justly accounted the second in the British dominions.

The circumference of Dublin may be about ten miles, being about two miles and a quarter in length, and as much in breadth. The harbour is incommodious, being impeded with two banks of sand, called the north and south bulls, which prevent ships of large burden from passing the bar; but some improvements have been made, and others might be carried into execution. A mole has been constructed four miles in length: and the quays are spacious and beautiful. There are six bridges, the chief of which is that called Carlisle. The castle was founded about the year 1205, but it has been since rebuilt, and is now the town residence of the viceroy, and the sanctuary of the public records. The parliament-house is a superb building, erected at considerable expence. The church of St. Patrick is the cathedral; a venerable building, which was begun in the end of the twelfth century; but the

\* Gough's Camden, iii. 555.

† Young, ii. 220.

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In proceeding cities of Ireland a city of considerable rank among the nation, the largest, tall, and it was computed annually killed. This city lies but the marsh ample space has

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\* Mr. Young, vol. duties of the harbour  
† Gough's Camden  
‡ Beauclerc, 9.

steeple, the highest in the city, was not erected till the year 1370. The royal exchange was completed in 1779; and, among other beautiful edifices must not be omitted that whirlpool of expenditure the custom-house; and the houses of the Duke of Leinster, the Earl of Charlemont, and others.

Dublin has an ample supply of native provisions; but coals are imported from Scotland and Cumberland.

In proceeding to give a brief account of the principal towns and cities of Ireland, Cork and Limerick attract the first attention. Cork is a city of considerable importance, situated on the south-east side of the island, and supposed to contain about 80,000 inhabitants. The haven ranks among the most capacious and safe in Europe; and the exportation, the largest in the sister kingdom, consists chiefly of beef, hides, tallow, and butter. It is the grand market of Irish provisions; and it was computed that not less than a hundred thousand cattle were here annually killed and salted, between the months of August and January. This city lies chiefly in a marshy island, surrounded by the river Lee; but the marshes on the opposite side of the river having been drained, ample space has been given to the recent improvements\*.

Limerick unites the fortunate situation of being almost central to the south of Ireland, with an excellent haven formed by the long estuary of the river Shannon. The city is accounted the third in Ireland, and was formerly fortified with great care. The episcopal see is said to have been founded in the year 652. The Danes held the city from the ninth century to the eleventh. There are three bridges over the river, one of which consists of fourteen arches. The number of inhabitants has been computed at 50,000. The chief exports are beef and other provisions†.

The other chief towns in Ireland shall be briefly mentioned, in a geographical progress from the south towards the north.

Galway is a town of considerable note, and carries on an extensive trade with the West Indies. The port is commodious and safe, but distant from the city, which can only be reached by vessels of small burden: the number of inhabitants is computed at 12,000. Greater trade is now carried on in the bay of Sligo than at Galway‡.

On Klew Bay, in the centre of the west of Ireland stands Westport, but by some fatality the advantages of the county of Mayo have not been improved, nor are there any towns of much consequence upon the whole western coast. Sligo is, however, increasing in trade, and the inhabitants are computed at 8000; and Castlebar is also a prosperous town§.

Londonderry is more remarkable for its ancient and military fame than for its present commerce, though not unimportant. It stands on the river Foyle, over which a wooden bridge of singular construction, one thousand and sixty-eight feet in length, was thrown in 1791.

Belfast on the north-east, is in the centre of the linen manufactures, and may almost be regarded as a Scottish colony. The inhabitants are computed at 20,000. The chief manufactures, cotton, cambric, sail-cloth, linen, white-glass, sugar, and earthen ware. It maintains con-

\* Mr. Young, vol. i 417, expresses his astonishment at the populousness of Cork. The duties of the harbour were, in 1751, 62,000*l.* in 1779, 140,000*l.*

† Gough's Camden, iii. 517.

‡ Beauf. 9.

§ *Ibid.* 72.

siderable intercourse with the commercial city of Glasgow; and the grand exports are to the West Indies and America.

Dundalk has also its manufactures of linen and muslin. Drogheda imports sea-coal and goods from England, and exports considerable quantities of grain. It is a well built town on the Boyne: the inhabitants on enumeration in 1798, were found to exceed 15,000.

Towards the south-east, Wexford claims the first notice, being remarkable for its woollen manufactures; but the haven, though spacious, is not sufficiently deep for large vessels. The inhabitants are 9000.

Waterford is a city of considerable importance, situated on the river Suir\*, and is supposed to have been founded by the Danes. A noble quay extends the whole length of the town, to which large vessels can come; and a fine wooden bridge has been lately thrown over the Suir. The population is about 35,000. The chief exports are beef, pork, &c. and linen. Packet boats sail regularly betwixt Waterford and Milford Haven.

The sea-ports of Dungarvon and Youghall are lost in the superior consequence of Cork; but Kinsale is a maritime arsenal, and is supposed to contain 8000 souls.

The chief towns in the interior, Armagh, Tuam, Cashel, &c. &c. are rather venerable from their ecclesiastical antiquity than important in themselves. Kilkenny is, however, an exception; a handsome town, with 16,000 inhabitants.

**EDIFICES.]** Many of the chief edifices of Ireland have been already mentioned in the description of Dublin. The cathedrals seldom aspire to great praise of architecture; and the villas of the nobility generally yield in splendour to those of England, and even of Scotland.

**ROADS.]** Though the turnpike roads in Ireland be rather neglected, yet the cross roads are admirable; and Mr. Young has explained at length the principles upon which they are constructed†.

**INLAND NAVIGATION.]** The advantages derived by England from inland navigation soon attracted the attention of Ireland; and, not many years after the example set by the Duke of Bridgewater, a grand canal was begun from the city of Dublin to the river Shannon, and was actually carried on to the bog of Allen, at the expence of 77,000*l*.†. But the engineer's want of ability occasioned great errors in the original plan and survey; and the work was interrupted in 1770. It has since been completed to the Shannon, near Banagher, and to the Barrow at Athy, so as to join Dublin by inland navigation with Limerick and Waterford.

A canal is completed from the town of Newry to Lough Neagh, and thence to the collieries of Drumglash and Dungannon. But the original intention to supply Dublin with Irish coals, has not succeeded.

**MANUFACTURES AND COMMERCE.]** Though we find, as has been already mentioned, that Ireland was distinguished at an early period for her manufacture of woollen stuffs, yet the spirit of industry made little progress, and the chief Irish manufactures are of recent institution. But the linen manufacture was not unknown in Ireland in more early times, as appears from the acts of parliament in the reigns of Henry VIII. and Elizabeth. The annual produce of the linen manufacture was com-

\* — That gentle Swire, that making way,  
By sweet Clonmel, adorns rich Waterford.

SPENSER.

† Vol. ii. 151.

† Phillips, 330.

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• Young, ii. 238.

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• Young, 171. Si  
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puted at about 2,000,000*l.* sterling \* 1780. In the year ending January 1799, the value of Irish linen exported to Great Britain exceeded 2,500,000*l.* exclusive of that sent to America, and the home consumption; and it has since considerably increased.

But a grand portion of the commerce of Ireland arises from her abundant stores of black cattle, the moisture of the climate rendering the pasturage remarkably luxuriant.

The average annual exports of Ireland for the seven years previous to 1791, amount, according to Dr. Beaufort, to 4,357,000*l.* From the annual average taken of the three years preceding the 5th January, 1799, it appeared that the total value of exports from Ireland to Great Britain alone was 5,612,689*l.*

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

CLIMATE.] IRELAND lying nearly in the same parallel with England, the difference of climate cannot be supposed to be very important. The mean temperature of the north is about 48, of the middle 50, and of the south 52 of Fahrenheit†.

FACE OF THE COUNTRY.] In considering the face of the country it must be remembered, that Ireland forms a striking contrast to Scotland, being mostly level, fertile, and abundant in pasturage. The chains of hills, for they can hardly aspire to the name of mountains, are few and unimportant.

SOIL AND AGRICULTURE.] The soil and agriculture of Ireland are topics which have been ably illustrated by an intelligent writer‡. He observes, that the quantity of the cultivated land exceeds in proportion, that of England. The most striking feature is the rocky nature of the soil, stones generally appearing on the surface, yet without any injury to the fertility. The stones are, for the most part, calcareous, and appear at no great depth, even in the most flat and fertile parts, as Limerick, Tipperary, and Meath. The climate being more moist than that of England, the verdure never appears parched with heat||. Tillage is little understood, even in the best corn counties; turnips and clover being almost unknown: the wheat sown upon fallow, and followed by several crops of spring corn. The farmers are oppressed by the shocking system of *middle men*, who rent farms from the landlords, and let them to the real occupiers; who, as well as the proprietors, suffer greatly by this strange practice. Lime stone gravel is a manure peculiar to Ireland; having, on uncultivated land, the same wonderful effects as lime, and on all soils it is beneficial§.

\* Young, ii. 238.

† 1 Trans. R. I. A. vol. ii.

‡ Young's Tour, ii. 72.

§ The Curragh of Kildare is a most beautiful lawn, of about 4000 English acres, a sheep-walk of the softest turf, and most delicious verdure. Young, ii. 7.

¶ Young, 171. Since Mr. Young wrote there has been great improvement in agriculture.





Ireland; and the observations may be extended to the east. On the N. W. are the lakes of Eask, Trierty, Melvin, Macnean, and Gill. That of Allen, as already mentioned, is a chief source of the Shannon, into which the Gara and Key also pour their waters. Further to the west are two considerable lakes, the Conn and the Mask; nor must those of Currafin be forgotten.

**MOUNTAINS.]** The mountainous chains in Ireland are neither numerous nor important; but an upland ridge divides the country from the N. E. to the S. W. giving birth to several of the rivers. The Irish hills generally form short lines, or detached groups. One group of considerable height appears on the west and south of Lough-Leane, or what is called the lake of Killarney: of these Mangerton is 2500 feet above the sea. A small line of hills extends on the north-west of Bantry-bay, and passes to the east, under the name of the Shehy mountains\*. To the north of this is the line of Slieblogger and Nagles, followed by the Galtee mountains; and towards the east, are those of Knochmeledown, which bend southward towards the bay of Dungarvin. A small chain also appears to the south of Tralee, which, with a group to the N. E. may be said to complete the enumeration of the mountains of Munster.

In Leinster is the mountain of Leinster, the line of Sliebh-bloom on the S. W. and a considerable group to the south of Dublin, styled the Kippure mountains, or those of Wicklow. The extent of this group is about thirty English miles in length, by about twelve in breadth.

In Ulster is a small group, called the mountains of Mourne, in the S. E. corner of the province: one of them, Donard, is said to be about the height of Mangerton. The hills of Sliebhcroob (in the Irish language *Sliebh*, signifies a mountain), form the centre of the county of Down; and several hills are sprinkled over the eastern half of Antrim. On the north-west of Loughneagh are those of Sliebhgallan and Carn-togher. Sliebh Snaght is a considerable mountain N. W. of Lough Foyl, whence other lines and groups extend down to Lough Erne.

The eastern part of Connaught presents numerous marshes, but few mountains, except those of Baughta on the south. The extreme western peninsula, is one of the most mountainous regions in Ireland. Among other names may be mentioned, Mount Nephin, in the county of Mayo, a solitary hill of 2640 feet; and one of the most considerable in the island. That of Croagh Patrick, on the S. E. of Clew Bay, a cone of 2666 feet; the Fernamoore mountains to the west of Lough Mask; and the Twelve Pins, a line of so many small peaks in Ballinahinch; with others to the south of Lough Corrib.

**FORESTS.]** Scarcely the semblance of a forest remains in Ireland; and Boate has long since observed, that the woods have been greatly diminished since the entrance of the English, partly from the extension of tillage, and partly from the necessity of opening up the recesses of banditti. Another great cause was, the consumption in domestic fuel, and in the iron manufacture, the coal mines not having been explored.

**Bogs.]** The place of the forests is unhappily usurped by the moors or bogs, which form a remarkable feature of the country. Boate divides them into several genera and species, forming an elaborate scale of sterility. The dry heaths are generally confined to the mountains. The bogs he sub-divides into four descriptions: 1. The grassy, in which the water being concealed by herbage, they become extremely perilous

\* Beaufort's Memoir of a Map of Ireland.

to travellers: some of these are dry in the summer. 2. The pools of water and mire. 3. What he terms hassocky bogs, or shallow lakes studded with tufts of rushes, which are chiefly found in the province of Leinster, especially in King's and Queen's counties. 4. The peat moors. Ornaments of gold, and other relics of antiquity, have, from time to time, been discovered in the bogs at great depths; and there are other indications that they are of comparatively recent formation\*. It is hoped that the hand of industry will, in time, remove many of these blemishes; and one of the greatest improvements of modern agriculture is that of reclaiming peat moors, by means of calcareous manure.

The Irish bogs differ from the English morasses in being rarely level, but rising into hills; and there is a bog in Donnegal that is a perfect scenery of hill and dale. The plants are heath, with some bog myrtle, and a little sedgy grass.

**BOTANY.]** The study of botany has been less cultivated here than in any other part of the united empire; and the neighbourhood of Dublin, which has been the best explored, affords no rare, and few characteristic plants. From the general mildness of the climate, the extensive tracts of bog, and the vast mountainous ranges that intersect the country, and afford capacious basins for its numerous lakes, it is obvious that the flora of Ireland, when complete, will probably contain several species that are strangers to the rest of the British islands. On the mountains of Sligo is found the *Saxifraga umbrosa*, (known in our gardens by the name of *London pride*,) and the romantic scenery of Killarney in the county of Kerry, is the most northern *habitat* of the *Arbutus Unedo*: the heaths abound with the stately *Erica Daboeci*, and the mountain avens, bear-berry, with other Alpine plants, already noticed in the botany of Scotland, expand their neglected blossoms, and trail their glowing festoons of clustered berries, unnoticed amidst the wild solitude of their rocky fastnesses.

**ZOOLOGY.]** In passing to the zoology of Ireland it may be expected that not many varieties should be found between the Irish animals and those in England.

The Irish horses, called hobbys, are of a small breed, remarkable for the gentleness of their pace.

The Irish hound is one of the noblest animals of the class, and formerly celebrated for his size and vigour, but the breed is now almost extinct.

Bede has commemorated the praise of Ireland for abundance of honey, and of milk, so that the country seems, even in early times, to have abounded in cattle. He also mentions the numerous herds of deer, which animal the progress of cultivation has now rendered rare. In various parts of Ireland are dug up enormous horns, probably belonging to a species of deer now extinct. Some of these horns have been found of the extent of fourteen feet from tip to tip, furnished with brow antlers, and weighing three hundred pounds; the whole skeleton is frequently found with them. It is supposed that the animal must have been about twelve feet high.

**MINERALOGY.]** The mineralogy of Ireland has been recently ennobled by the discovery of considerable masses of native gold in the county of Wicklow, to the south of Dublin. These were found in a brook, running west to east, to the river of Avonmore, where it is joined by the river Aghran; and on a declivity of the mountain called Croughan Kinshelly, about seven English miles west of Arklow, and six south-west

\* See Dr. Campbell's Philosophical Survey of the South of Ireland, sometimes falsely ascribed to Dr. Wilkinson, to whom it is dedicated.

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of the noted copper mines of Cronebane\*. It is said that a jeweller, who lately died in Dublin, often declared, that gold from that spot had passed through his hands to the value of 30,000*l.*, the secret being retained for many years, and some pieces weighing to the amount of 70 or 80 guineas. It is now worked for government, and it is said that a very massy vein has been recently discovered, which, it is hoped, will greatly benefit the country; for mines have, in all ages, ancient and modern, enriched and improved the countries where they were found, and the exception, if such, of Spanish America is to be assigned to causes of a different nature.

The silver found in the Irish mines deserves more attention. Boate mentions a mine of this metal, intermingled with lead, which was wrought in the county of Antrim, and yielded a pound of pure silver from thirty pounds of lead. Another, less productive of silver, was found near the harbour of Sligo, in Connaught; and a third in the county of Tipperary, twelve miles from Limerick. The ores of this last were of two kinds, most generally of a reddish colour, hard, and glittering; the other, which was the richest in silver, resembled a blue marl. The works were destroyed in the Irish insurrections under Charles I.

Copper has been recently found in the county of Wicklow, and at Muccross, in Kerry.

One of the chief mineral productions of Ireland is iron, the mines of which were little known till the time of Elizabeth.

The beds of coal to be seen in various regions of Ireland have not yet been explored to their proper extent. That of Kilkenny, found at Castlecomer, is deservedly celebrated among mineralogists as the purest which has yet been traced in any quarter of the globe.

One of the most beautiful marbles of Ireland is found near Kilkenny, and others have been discovered in various parts of the island. Slate, of various kinds, is also abundant.

NATURAL CURIOSITIES.] Among the natural curiosities of Ireland would, in ancient times, have been mentioned the purgatory of St. Patrick, a miserable monkish delusion. At present the lake of Killarney attracts more deserved devotion. This picturesque expanse of water is about ten miles in length, and from one to seven in breadth: it is divided into three parts, called the upper, lower, and Muckrus lake; and is surrounded by an amphitheatre of mountains, clothed with trees, whose verdure is contrasted with intervening rocks. The arbutus, with its scarlet fruit and snowy blossoms, here vegetates in great luxuriance. Nor are cascades, and other features of rural beauty, wanting to complete the scene†. The isle of Innisfallen is not only romantic, but of venerable fame for the annals there written.

What is called the Giant's Causey must be distinguished among the most remarkable of the curiosities of Ireland. When we recollect that a similar production, the celebrated island of Staffa, remained unnoticed till within these thirty years; we shall be the less inclined to wonder that the Giant's Causey is an object of recent observation. The first account is that given by Sir R. Buckley, in a letter to Doctor Lister, 1693. This surprising collection of basaltic pillars is about eight miles N.E. from Coleraine. The adjacent coast is verdant, but precipitous, and from it the Causey projects into the sea, to an unknown extent. The part explored is about 600 feet in length; the breadth from

\* Philof. Trans. 1797.

† Young, l. 444, &c.

.240 to 120; the height from 16 to 36 feet above the level of the strand. It consists of many thousand pillars, mostly in a vertical position; some of them high, others broken, and, for a considerable space, of an equal height, so as to form a pavement. They are closely compacted together; though the form be various, trigonal, tetragonal, pentagonal, hexagonal, and heptagonal; the most numerous are the pentagonal. The pillars are rarely composed of one entire piece, but mostly consist of short or long joints, either plain or alternately concave and convex. They are from 15 to 24 inches, or more, in diameter. Towards the N.E. is what is called the Organ, in the side of a hill, consisting of fifty pillars; that in the middle is 40 feet high, the others gradually diminishing. Similar pillars are also found a mile and a half inland, four miles to the W. of the Giant's Causey, and at the capes of Bengore and Fairhead.

The basalt of the Giant's Causey is of a very compact texture, and the angles of the pillars have preserved their sharpness, though exposed to the sea for perhaps two or three thousand years\*. The same shore also presents horizontal and bending pillars, like those of Staffa; the attendant minerals are zeolite in the irregular basalt, steatite, and bits of agate, red ochre, and iron ore.

#### IRISH ISLES.

The few and small isles around Ireland are unimportant, but must not be wholly omitted. To the N.E. of Dublin is Lambey, a small island already mentioned: and at the S.E. extremity of Ireland appear the rocks called Tashard and the Saltee isles. At the southern extremity is the isle of Clare, about three miles and a half in length, and more remarkable for its southern promontory called Cape Clear, than for any other object. Turning to the N.W. are the isle of Dursey, the Hog islands, and the Skelligs; to the north of the latter is Valentia, off the coast of Kerry, which is followed by the Blaskets, or Ferriter islands. The south Arran islands lie at the mouth of the noble bay of Galway, and are remarkable for a small kind of oats without any husk, and for large calves; the chief is near seven miles in length. A number of small islands encircle the coast, which projects furthest into the Atlantic, such as Garomna, Littermore, Minish, Inisney; and further to the N.W. Dunloghan, Omey, Crua, &c. Boin was famous in the days of monastic sanctity, and has retained its ancient appellation. To the N.E. are the Inisture, and another Clare at the mouth of Clew bay; at the bottom of which is a numerous group of small islands. To the north is Achil, the largest of the Irish isles, being about twelve miles long by ten broad. It is separated from the coast of Mayo by a narrow channel, but no minute description of it has appeared. Inismurry is a small isle at the mouth of the bay of Donegal; and no other isles worth mention appear till we arrive at the northern islands of Arran, off the coast of Donegal. The N.W. extremity of Ireland is marked by Tory isle; and returning towards the east, we meet with Inishtrahull; and after an equal distance, Rathlin, the Racina of Ptolemy, and memorable as the retreat of Robert I. of Scotland.

\* Kirwan Min. i. 232.

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From DeLorme's 4 Sheet Map France.

1881. By G. H. & D. W. Swanwick & Co. London. & R. S. & Co. Paris. & R. S. & Co. Rome.



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## FRANCE.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**NAMES.]** FRANCE, deservedly celebrated amongst the most eminent European states, was probably known to the Phœnicians, though the superior fame of the metallic riches of Spain have almost eclipsed their discovery of Gaul. In the year 600 before the birth of Christ; according to the chronology of Usher, the Phœnicians sailing from Ionia founded Massilia, or Marseilles; yet Herodotus, who flourished a century and a half after that period, shews so little knowledge of Gaul, as to suppose that the Danube arose in the Pyrenees. The ancient inhabitants were the Celts, of whom even Aristotle seems only to have learned that they inhabited the region above Iberia or Spain. The southern parts of Gaul became known at an early period to the Romans, who entered that region about 120 years before the Christian epoch, and soon afterwards founded the province termed Gallia Bracata; but the remainder of this large and fertile country was reserved for the discovery and conquest of Julius Cæsar. The ancients sometimes styled it the country of the Celts, but the only general name seems to have been Gallia, which, after the fall of the Roman empire, was supplanted by that of Francia, or France, because it was subdued and possessed by the Franks, an assemblage of tribes from lower Germany.

**EXTENT.]** The extent of France, before the recent acquisitions, was computed at 148,840 square miles; and supposing the then population to be 26,000,000, would render 174 inhabitants to each mile square. The boundaries were, on the west, the Atlantic ocean; on the south the Mediterranean and Pyrenees: on the E. Savoy, Switzerland, and Germany; on the north, the Austrian Netherlands, the German sea, and English Channel. It extends from about the 42d to near the 51st degree of N. latitude; from about the 7th degree of longitude west from Paris to about the 5th on the east; being in length N. to S. about 600 British miles, and in breadth W. to E. about 560.

**ORIGINAL POPULATION.]** The original population of Gaul has been ably illustrated by many authors. The primitive inhabitants were the Celts, to whom no anterior people can be traced in the western regions of Europe; but on the S.W. the Aquitani, of African descent, had passed from Spain; and on the N.E. the warlike German tribes, known by the name of Belgæ, had seized on a third part of the country, where they introduced the Gothic language and manners. On the S. also the German Gauls had diffused themselves into what was called Gallia Bracata; nor must the Greek colonies be forgotten. The solidity and duration of the Roman conquests diffused the Latin language through all ranks. On the N.W. extremity, it is probable that there were remains of the ancient Celts, before the British colony proceeded there in the fifth century, and imparted a name to the district.

**PROGRESSIVE GEOGRAPHY.]** The Romans first illustrated the geography of Gaul, which they considered as divided into three chief regions, the Celtic, the Belgic, and Aquitanic; the Provincia Bracata being almost forgotten in the extent of their subsequent conquests. These regions were again sub-divided into no less than seventeen provinces. On the subversion of the Roman power, new names and divisions succeeded, as Flandria, Lotharingia, Neullria, Burgundia, Vasconia, &c. \*: while Aquitania and Provincia remained ancient names, though not within ancient boundaries. These were succeeded by divisions yet more modern, which in recent times, have been supplanted by more minute departments.

| <i>Ancient Provinces.</i> | <i>Departments.</i> | <i>Chief Towns.</i> |
|---------------------------|---------------------|---------------------|
| Flandre Française.        | Nord.               | Lille.              |
| Artois.                   | Pas de Calais.      | Arras.              |
| Picardie.                 | Somme.              | Amiens.             |
|                           | Seine Inférieure.   | Rouen.              |
|                           | Calvados.           | Caen.               |
| Normandie.                | Manche.             | Coutances.          |
|                           | Orne.               | Alençon.            |
|                           | Eure.               | Evreux.             |
|                           | Seine.              | Paris.              |
|                           | Seine and Oise.     | Versailles.         |
| Isle de France.           | Oise.               | Beauvais.           |
|                           | Aisne.              | Laon.               |
|                           | Seine and Marne.    | Melun.              |
|                           | Marne.              | Châlons-sur-Marne.  |
| Champagne.                | Ardenne.            | Méziers.            |
|                           | Aube.               | Troyes.             |
|                           | Haute Marne.        | Chammont.           |
|                           | Meuse.              | Bar-sur-Ornain.     |
|                           | Moselle.            | Metz.               |
| Lorrainé.                 | Meurthe.            | Nancy.              |
|                           | Vosges.             | Epinal.             |
|                           | Haut-Rhin.          | Colmar.             |
| Alsace.                   | Bas-Rhin.           | Strasbourg.         |
|                           | Isle and Vilaine.   | Rennes.             |
|                           | Côtes-du-Nord.      | St. Brieux.         |
| Bretagne.                 | Finistère.          | Quimper.            |
|                           | Morbihan.           | Vannes.             |
|                           | Loire Inférieure.   | Nantes.             |
|                           | Sarthe.             | Le Mans.            |
| Maine and Perche.         | Mayenne.            | Laval.              |
| Anjou.                    | Mayenne and Loire.  | Angers.             |
| Touraine.                 | Indre and Loire.    | Tours.              |
|                           | Loiret.             | Orléans.            |
| Orléanois.                | Eure and Loire.     | Chartres.           |
|                           | Loire and Cher.     | Blois.              |
|                           | Indre.              | Châteauroux.        |
| Berri.                    | Cher.               | Bourges.            |
| Nivernois.                | Nièvre.             | Nevers.             |

\* D'Anville, *Etats formés en Europe.*

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Comté-de-Foix.

Rouffillon.

Languedoc.

Provence.

| <i>Ancient Provinces.</i>                       | <i>Departments.</i>                                                                                  | <i>Chief Towns</i>                                                                 |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Bourgogne.                                      | { Yonne.<br>Côte d'Or.<br>Saône and Loire.<br>Ain.<br>Haute-Saône.                                   | Auxerre.<br>Dijon.<br>Mâcon.<br>Bourg.<br>Vesoul.                                  |
| Franche-Comté.                                  | { Doubs.<br>Jura.<br>Vendée.                                                                         | Besançon.<br>Lons-le-Saunier.<br>Fontenay-le-Peuple.                               |
| Poitou.                                         | { Deux Sèvres.<br>Vienne.<br>Haute-Vienne,<br>comprising part of<br>Limouin.                         | Niort.<br>Poitiers.<br>Limoge.                                                     |
| Marche.                                         | { Creuze.<br>Corrèze,<br>comprising part of<br>Upper-Vienne.                                         | Guèret.<br>Tulle.                                                                  |
| Limousin.                                       | { Allier.                                                                                            | Moulins.                                                                           |
| Bourbonnois.<br>Saintonge, comprising<br>Aunis. | { Charente-Inférieure.                                                                               | Saintes.                                                                           |
| Angoumois,<br>comprising part of<br>Saintonge.  | { Charente.                                                                                          | Angoulême.                                                                         |
| Auvergne.                                       | { Puy-de-dôme.<br>Cantal.<br>Rhône.                                                                  | Clermont.<br>St. Flour.<br>Lyon.                                                   |
| Lyonnois.<br>Forêt and Beaujolois.              | { Loire.<br>Isère.<br>Hautes-Alpes.                                                                  | Montbrison.<br>Grenoble.<br>Gap.                                                   |
| Dauphiné.                                       | { Drôme.<br>Dordogne.<br>Gironde.<br>Lot and Garonne.                                                | Valence.<br>Perigueux.<br>Bordeaux.<br>Agen.                                       |
| Guyenne, compre-<br>hending Gascogne.           | { Lot.<br>Aveyron.<br>Gers.<br>Landes.<br>Hautes Pyrénées.                                           | Cahors.<br>Rhodéz.<br>Auch.<br>Mont-de-Marsan.<br>Tarbe.                           |
| Béarn.<br>Comté-de-Foix.<br>Roussillon.         | { Basses-Pyrénées.<br>Arriège.<br>Pyrénées-Orientales.<br>Haute-Garonne.<br>Aude.<br>Tarn.<br>Garde. | Pau.<br>Tarascon.<br>Perpignan.<br>Toulouse.<br>Carcassonne.<br>Castres.<br>Nîmes. |
| Languedoc.                                      | { Lozère.<br>Ardèche.<br>Haute-Loire.<br>Hérault.<br>Bouches-du-Rhône.<br>Basses-Alpes.<br>Var.      | Mende.<br>Privas.<br>Le Puy.<br>Montpellier.<br>Aix.<br>Digne.<br>Toulon.          |
| Provence.                                       |                                                                                                      |                                                                                    |



| <i>Ancient Provinces.</i> | <i>Departments.</i> | <i>Chief Towns.</i> |
|---------------------------|---------------------|---------------------|
| Corfica.                  | { Golo.<br>Liamone. | Bastia.<br>Ajaccio. |

The above are the modern departments of old France; the recent conquests have also been moulded to a similar form, under the name of re-united departments; these are the following:

| <i>Ancient Names.</i>                                                                             | <i>Re-united Departments.</i>          | <i>Chief Towns.</i> |
|---------------------------------------------------------------------------------------------------|----------------------------------------|---------------------|
| Territory of Avignon, county of Venaissin.                                                        | { Vaucluse, with the Bouches du Rhone. | Avignon.            |
| District of Apt.                                                                                  | { Mont Blanc.                          | Chambery.           |
| Savoy.                                                                                            | { The Maritime Alps.                   | Nice.               |
| County of Nice.                                                                                   | { Mont Terrible.                       | Porentruy.          |
| Bishoprick of Bâle.                                                                               | Jemmapes.                              | Mons.               |
| Austrian Hainaut.                                                                                 | Lys.                                   | Bruges.             |
| Western part of Austrian Flanders.                                                                | Escaut.                                | Gand.               |
| Eastern part of Flanders.                                                                         | Deux Nethe                             | Anvers.             |
| Eastern part of Brabant.                                                                          | Dyle.                                  | Bruxelles.          |
| Southern part of Brabant.                                                                         | Meuse.                                 | Maëstricht.         |
| Part of the country of Liege, and of Gelderland.                                                  | Inférieure.                            |                     |
| Part of the countries of Liege, and of Limbourg, with the principalities of Stravelo and Malmédy. | Ourthe.                                | Liège.              |
| County of Namur.                                                                                  | Sambre and Meuse.                      | Namur.              |
| Duchy of Luxembourg.                                                                              | Forêts.                                | Luxembourg.         |
| Part of the Archbishoprick of Trèves.                                                             | Rhine and Moselle.                     | Coblentz.           |
| Part of the Archbishoprick of Trèves, and of the Duchy of Deux Ponts.                             | Sarre.                                 | Trèves.             |
| Part of the ancient Archbishoprick of Mayence, and of the Duchy of Deux Ponts.                    | Mont Tonnere.                          | Mayence.            |

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*Ancient Names.      Re-united Departments.      Chief Towns.*

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| Part of the Arch-<br>bishoprick of Cologne,<br>of the Duchy of<br>Juliers, of Prussian<br>Gelderland, of<br>Cleves, Meurs, &c. | } Roer.  | Aix-la-Chapelle. |
| Of the Territory of<br>Geneva, of the<br>Districts of Gex,<br>Larouge, Thonon,<br>&c.                                          |          |                  |
|                                                                                                                                | } Leman. | Genève *.        |

**HISTORICAL EPOCHS.]** The chief historical epochs of France may be arranged in the following order :

1. The primitive population of the Celts, and the conquests of the Aquitani and Belgæ.

2. The faint notices of the ancients concerning Gaul, from the establishment of the Phœœan colony at Marseilles, to the conquest by Cæsar.

3. The complete disclosure of the country to the learned world by that great general ; and the various revolutions and events of which it was the theatre under the domination of the Romans.

4. The final conquest of the country by the Franks under Clovis, about the year 490, and the conversion of the Franks to the Christian faith, five years after that period.

5. The obscure and distracted history of the Merovingian race, (France being frequently split into small kingdoms), till its final extinction in the middle of the eighth century.

6. The Carolingian race, which ascended the throne in the year 752, and was followed, twenty years afterwards, by the celebrated reign of Charlemagne, who carried the power of France to the utmost extent and splendour, having, in particular, subdued the greatest part of Germany, where he became the founder and first sovereign of what has since been styled the German Empire, A.D. 800, and which remained with his descendants for near a century.

7. The accession of the house of Capét in the year 987.

8. The crusades, in which the French bore the chief sway,

9. The wars with England. The acquisition of France by Henry V., and its deliverance by the maid of Orleans, or rather by Charles VII., styled the Victorious.

10. The reign of Louis XI., who, crushing such powerful princes as were left after the English shock, may be regarded as the father of the absolute monarchy.

11. The reign of Francis I., called the father of the arts and letters, during which the French, who had been regarded as barbarians by the more civilized people of Italy, began, on the contrary, to be distinguished

\* The recent acquisitions of France, among which must be chiefly placed the United Provinces, not to mention the new and subservient kingdoms and principalities, remain to be defined and consolidated by a general peace, before they can be admitted into classical geography.

by superior refinement. This is also the first epoch of a standing army in Europe.

12. The intestine commotions with the protestants, and massacre of St. Barthelemy.

13. The reign of Henry IV.

14. That of Louis XIV., too much extolled by the French, and too much degraded by other nations.

15. The recent revolution which has astonished Europe, and which, in the singularity and importance of the events, rivals the pages of ancient history.

ANTIQUITIES.] Several ancient monuments exist in France which are ascribed to the first epoch. The Greek colony at Marseilles seems to have imparted some degree of civilization to the country, and the rude Gallic coins are evidently an imitation of the Grecian model.

The Roman antiquities in France are numerous, and some of them in excellent preservation. Those at Nîmes are particularly celebrated, consisting chiefly of an amphitheatre, and the temple called La Maison Carrée.

The other periods of French antiquity have been ably illustrated by the learned work of Montfaucon; and the discovery of the grave of Childeric, near Tournay, in the last century, presented some of the most curious fragments. In an old tower of St. Germain des Prés are representations of several of the first monarchs of the Franks, and many of their effigies were preserved on their tombs at St. Dennis, and other places, till the late revolution.

The monuments of the Carlovingian race are yet more numerous, and Roman mosaics have illustrated the fame of Charlemagne. Of the later periods the monuments are so numerous, that it would be vain to attempt to enumerate them. One of the most singular is the suit of tapettry, which was preserved in the cathedral church of Bayeux, in Normandy, representing the beginning and termination of the grand contest between William and Harold, which led to the conquest of England by the Normans. It is said to have been the work of Matilda, wife of William; and bears every mark of that remote antiquity.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastic Geography.—Government.—Laws.—Population.—Colonies.—Army.—Navy.—Revenues.—Political Importance and Relations.*

RELIGION.] THE religion of France is the Roman Catholic; but the Gallican church, since its re-establishment by Bonaparte, has been considerably modified, and rendered wholly independent on Roman influence.

ECCLESIASTIC GEOGRAPHY.] The general division into archbishopricks

\* In Picardy, and other parts possessed by the Belge, there are circles, and other monuments of the kind which we call druidic. Near the town of Carnac, on the coast of Vannes, in Bretagne, there is a grand monument of this kind, far exceeding Stonehenge, if the account be not exaggerated, which says, that there are about 4000 stones, many as high as 18 or 20 feet, disposed in the form of a quincunx of eleven rows.

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\* M. Walckenaer, i  
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and bishopricks remains much the same as before the revolution; but the revenues and power attached to these ecclesiastical offices are now only sufficient to render them respectable, but not formidable.

GOVERNMENT.] The government of France has assumed more stability since the first publication of this work, every effort having been used to introduce a new dynasty in the family of Bonaparte.

The present state of the government of France may be most impartially derived from the mouth of a French author, a man of talent and observation\*.

"The executive power is lodged, with complete plenitude, in the will of the emperor, who has the power of adopting a successor.

"The new laws are first proposed by the government to an assembly of fifty members, called the *Tribunâtes*, which discusses them. They are afterwards debated by the orators of government, and of the *Tribunate*, before the legislative body, which sanctions them or rejects them, without any discussion by secret scrutiny.

"The government may retract a project of a law, in whatever state of discussion it may be.

"The Legislative body, and the *Tribunate* are renewed in part each year, and the new members are chosen by the conservative Senate, upon lists formed by the electoral colleges of the departments, of which the members are for life. These electoral colleges of the departments are chosen by the electoral colleges of the *arondissements*, or districts themselves, elected by assemblies of each canton, or what might be called in old English tything, composed of householders. The emperor names the president of each assembly of the canton; and the president chooses the scrutators and the secretary. These assemblies, as well as those of the electoral colleges, are convoked and dissolved by order of the emperor; who can also add to each college of the district ten members named by himself, and twenty to each electoral college of the department.

"The members of the conservative Senate are for life. The nomination belongs to the emperor, who presents three, of whom the choice belongs to the senate itself; or, according to another disposition, the emperor may present one, the *Tribunate* one, and the legislative body one. These members must be taken from a list, formed by the electoral colleges of the departments; but the emperor may, without the participation of the senate, and without any attention to the electoral colleges, name any person member of the conservative Senate, provided that he have attained the age prescribed by the law, and that the number do not exceed 120.

"The senate cannot proceed to any business, except it be proposed by the emperor, save only in cases of its own arrangements. But by its *senatus-consultus*, which cannot proceed except upon the proposition of the emperor, it exercises supreme power even upon the constitutional laws, in adding, explaining, or suspending the execution; in dissolving the legislative body, and the *tribunate*; and even in annulling the judgments of the civil and criminal tribunals, when it supposes them obnoxious to the safety of the state.

"Excepting the supremacy of the senate, and right of pardon, which belongs to the emperor, the tribunal of cassation exercises the supreme judiciary power, with a right of censure and discipline over the tribunals

\* M. Walckenaer, in his translation of the large edition of this Geography, Paris 1804, 1 vol. 8vo. i. 53. Some alterations have been adopted in consequence of the recent change.

of appeal, and the criminal tribunals, annulling their judgments in cases of contradiction to the law, or want of form, and even with the power of suspending the judges. There is a grand judge or minister of justice, who, on solemn occasions, presides in the tribunal of cassation, and the tribunals of appeals. There are also, unhappily, for certain crimes special tribunals; of which the judgments are not subject to appeal, being exempt from the ordinary forms. All the judges, except the justices of peace, are for life, and named by the emperor, nevertheless for those of the tribunal of cassation he presents three persons to the senate, whose choice is definitive.

**POPULATION.]** The population of France was formerly computed at 26,000,000, but the recent acquisitions, if durable, would swell it to the formidable extent of 32,000,000. At all events, France is a country teeming with population, and quickly resumes her vigour after stupendous losses, as Europe has repeatedly experienced.

**COLONIES.]** In 1810 France may be said to have no colonies.

**ARMY.]** The political convulsions which have agitated this unhappy country, the enthusiasm, and yet more the despotism, of freedom, have occasionally, within these few years, swelled the French armies to the amazing computation of upwards of a million. But it may safely be doubted whether the real amount at any time exceeded 600,000 effective men, the French having swelled their own numbers to intimidate their enemies, and those of the latter to apologize for their defeats. Under the royal government the army of France was estimated at 225,000, of which were infantry 170,000, cavalry 44,000, artillery 11,000\*.

**NAVY.]** The maritime power of France was formidable even to England, till the battle of La Hogue, since which the British flag has reigned triumphant on the ocean; and the struggles of France, though often energetic, have encountered the fixed destiny of inevitable defeat.

**REVENUES.]** The revenue of France was formerly computed at about 30,000,000*l.* sterling; from which, after deducting the expence of collection, and the payment of the interest on the national debt, there remained clear about 18,000,000*l.*; but any attempt to calculate the present state of the revenue must be vague and inconclusive. According to the most recent accounts it amounted to about 25,000,000*l.* sterling.

The common current money of France has been computed at 90,000,000*l.* sterling, while that of Great Britain has been estimated at 40,000,000*l.* The late conquests have enriched France, and especially Paris, with the rapine of many provinces; and the generals vie with the Romans in wealth and luxury.

**POLITICAL IMPORTANCE AND RELATIONS.]** The political importance and relations of France continue to be vast; nor was the prodigious power of this state ever so completely felt and acknowledged, as after a revolution and a war which threatened her very existence. When expected to fall an easy prey, she suddenly arose the aggressor, and has astonished Europe by the rapidity and extent of her victories. The rivalry of many centuries between France and England sunk into a petty dispute, when compared with this mighty contest, which will be felt and

\* By the *Etat Militaire*, a calendar revived, for the eighth year of the republic, it appears that the French armies consisted of 110 demi-brigades, each of three battalions, and when complete, of 3,200 men; of 30 light demi-brigades of like number; 8 regiments of foot artillery, each of 20 companies; 8 of horse artillery, each of 466 men; 26 regiments of cavalry, and 20 regiments of dragoons, each of 800 men; 25 regiments of chasseurs, and 12 regiments of hussars, of the like number. The whole, without including the engineers, miners, &c. &c. forming a force of 413,728.

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deplored by distant posterity. Yet, by the protection of all-ruling providence, the British empire has risen superior to the struggles, and remained free from those scenes of carnage and devastation which attended the French progress into other countries; and the French navy being reduced to so insignificant a force, Great Britain has less to apprehend from France, than at any former period. The other powers of Europe, except Spain and Portugal, are either the victims or associates of the ambitious projects of France.

## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Inland Navigation.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the French have been so often delineated, that the theme has become trivial and familiar. The most pleasing parts of the portrait are vivacity, gaiety, politeness, a singular disposition towards social enjoyments, and that happy art which enables the adept to dispose of his occupations and pleasures in an agreeable succession, free from listlessness or fatigue. On the other hand ancient and recent events conspire to affix a sanguinary stain on the national character, which one would little expect amid so much gaiety, and seeming benevolence.

The ancient and rooted enmity between France and England nourished many prejudices against the French character, which have since disappeared in the reports of more candid authors. Yet, with travellers accustomed to the elegance of English life, many of the French manners and customs cannot be reconciled to ideas of physical purity; and the looseness of morals, in regard to the sex, has become proverbial. Even the republican form of government did not super-induce republican manners, nor has the liberty of divorce proved any bond of chastity.

**LANGUAGE.]** The French language is the most universally diffused of any in Europe. In variety, clearness, and precision, and idioms adapted to life, business and pleasure, it yields to no modern speech; but it wants force and dignity, and yet more, sublimity. The critics and academicians of the seventeenth century enacted such severe laws of purity, that, like gold reduced to the utmost fineness, it has become soft and incapable of deep impressions. The French language is a well known corruption of the Roman, mingled with Celtic and Gothic words and idioms. Even in the tenth century it continued to be called Romance; a name which afterwards passed to the poems and tales of chivalry, as being composed in this dialect. One of the earliest specimens of French prose is the history by Villehardouin, which was followed by Joinville's life of St. Louis, and the copious and singular chronicle of Froissart. But while the Italian remains the same from the days of Dante and Petrarca, the epoch of classical purity of the French language commences with the reign of Louis XIV. The recent revolution has introduced such exuberance of new words and phrases, that a neological dictionary is required to explain them.

**LITERATURE.]** The literature of France has, in modern times, excited





Paris to be one-third smaller than London \*: and the inhabitants probably amount to between 5 and 600,000. The houses are chiefly built with free stone, but not from the ancient quarries like catacombs, which run in various directions under the streets; so that an earthquake would be peculiarly destructive, and might completely bury the southern part of the city. The banks of the Seine present noble quays; and the public buildings are not only elegant in themselves, but are placed in open and commanding situations. The Louvre is arranged among the best specimens of modern architecture; and the church of St. Genevieve, now the Pantheon, is also deservedly admired; nor must the Thuilleries, the Palais Royal, and Hospital of Invalids be forgotten. Paris, no doubt, exceeds London in magnificence, but yields greatly in cleanliness and convenience; and the streets, generally without accommodation for foot passengers, loudly bespeak the inattention of the government to the middle and lower classes of men. The recent revolution has little impaired the beauty of Paris; on the contrary, the rapine of several provinces has enlarged and adorned the public collections; and, by enriching numerous individuals, has enabled them to increase their favourite city with new and beautiful streets.

Next to Paris in extent and population was the noble city of Lyons, which was supposed to contain about 100,000 souls. As the chief manufactures were articles of luxury, silk, cloths of gold, and silver, &c. it was natural that this venerable town should be firmly attached to the ancient aristocracy, though with consequences incalculably fatal to its prosperity. During the insatuated reign of the Jacobins it was besieged, captured, and, after the wildest and basest massacres, was doomed to final demolition. But as there are bounds even to rage and folly, this decree was only executed in part; though Lyons will probably never recover its ancient extent and opulence. The new government lends, however, the most liberal encouragement.

The third and fourth cities of France are Marseilles and Bourdeaux; each peopled by about 80,000 souls. The foundation of Marseilles has been already mentioned, and the city remains worthy of its ancient fame, the port being at the same time one of the best and most frequented in the whole Mediterranean. The exchange is a noble building, and the new parts of the city are beautiful.

Bourdeaux was a prosperous city, but the trade must have suffered great injury. The port is ample and commodious, with extensive quays. The chief exports are wine and brandy, particularly the vin de Bourdeaux, which we term claret, because it is of a clear and transparent red, while most and some other wines are opaque. The theatre is the most magnificent in France, and the actors used to receive extravagant salaries; and as much as London exceeds Paris, so much did Bourdeaux, before the revolution, transcend Liverpool †.

In giving a brief idea of the other chief cities and towns of France, it may be premised that those of the Netherlands, formerly belonging to Austria, are reserved for separate description. But among those which formerly belonged to what was styled French Flanders, may be named Lille and Valenciennes; the former more memorable for its strength, than for its manufactures of camlets and stuffs. The population is computed at 60,000. Valenciennes is also remarkable for the strength of its fortifications; yet on the 26th of July, 1793, it surrendered to the English and Austrian army, under the Duke of York; but was retaken

\* Young's France, l. 96.

† Young, l. 60.

by the French army in the following year. The chief manufactures are lace, camlets, and cambrics.

Amiens is a considerable town, with a population of about 40,000; but Rouen, formerly the capital of Normandy, contains 72,000 souls, and carries on a considerable trade. Brest is more remarkable as being the chief maritime arsenal of France in the north, than for its extent or population, which does not exceed 30,000. Nantes, with a population of 56,000, is a beautiful commercial city, with a splendid theatre, and many new streets, but the environs are barren and uninteresting\*. Orleans, a city of about 40,000 souls, is celebrated by two sieges which it sustained, one against Attila, king of the Huns, in the fifth century, the other against the English in the fifteenth. Nancy, in Lorraine, is not equal to Metz in extent, but is one of the most beautiful cities in France. Straßbourg is a venerable city, with a population of about 40,000, seized by Louis XIV., in 1681, and confirmed to him by the peace of Rylwick, in 1697. The fortifications are strong; and the Gothic cathedral presents a spire of 574 feet in height.

Few of the other inland towns deserve mention, except Toulouse, a city of 50,000 souls; and the parliament of which was esteemed, under the old government, next in rank to that of Paris; the extent is great, but the manufactures are trifling, though here be the termination of the great canal, opened by Louis XIV., from the Mediterranean to the Garonne, a work truly magnificent, and which alone would preserve his memory to future ages. Montpellier, on the Mediterranean, with delicious and highly ornamented environs, and a noble aqueduct, is of considerable extent, but particularly celebrated by the salubrity of the air, and an ancient school of medicine. The prospect is singularly extensive and interesting, embracing the Pyrenees on the one side, and on the other, the yet grander summits of the Alps†.

EDIFICES.] Several of the most noble edifices of France are in Paris, and its vicinity. To those already mentioned must be added, the palace of Versailles, rather remarkable, however, for the profusion of expense, than for the skill of the architect; the parts being small and unharmonious, and the general effect rather idle pomp than true grandeur. The bridge of Neuilly, a league from Paris, is esteemed the most beautiful in Europe, consisting of five wide arches of equal size. The ancient cathedrals and castles are so numerous that it would be idle to attempt to enumerate them; and the French nobility were not contented, like those of Spain, with large houses in the cities, but had grand châteaux scattered over the kingdom, to which, however, they seldom retired, except when compelled by formal banishment from the court.

INLAND NAVIGATION.] The inland navigation of France has been promoted by several capital exertions. The canal of Briare, otherwise styled that of Burgundy, was begun by Henry IV., and completed by Louis XIII. opening a communication between the Loire and the Seine, or in other words, between Paris and the western provinces. Passing by Montargis it joins the canal of Orleans, and falls into the Seine near Fontainebleau. This navigation of forty-two locks, is of great utility in inland commerce‡.

The canal of Picardy extends from the Somme to the Oise, beginning at St. Quintin, and forming a convenient intercourse to the provinces in the N. E.

\* Young's France, l. 104.

† Phillips, 51.

‡ Young's France, l. 47.

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But the chief work of this description is the celebrated canal of Languedoc, commenced and completed in the reign of Louis XIV., by Riquet, the engineer, under the auspices of that able minister Colbert. Fifteen years of labour were employed, from 1666 to 1681, and the mechanical ignorance of the period was surprised at a tunnel near Beziers, of only 720 feet, lined with free-stone. This noble canal begins in the bay of Languedoc; and at St. Ferriol is a reservoir of 595 acres of water: it enters the Garonne about a quarter of a mile below the city of Toulouse. The breadth, including the towing paths, is 144 feet; the depth 6 feet; the length 64 French leagues, or about 180 miles. The expense was more than half a million sterling.

The other canals in France are very numerous; but, though of supreme utility, are too minute to enter into this general view of the kingdom.

For a century, extending from 1650 to 1750, Mr. Young supposes France to have possessed the most flourishing manufactures in Europe\*; and French writers affect to speak of the English manufactures as being of recent fame. A sketch of this important subject, particularly interesting to Great Britain, as the rival of France, shall here be traced from that well-informed author. At Abbeville was a famous manufacture of broad cloth; and another at Louviers in Normandy. At the same place, and at Amiens, were manufactures of stuffs, worsteds, &c. and some of cotton. The manufactures of Orleans were stockings, and refined sugar. At Chateau Roux another manufactory of broad cloths; and in the same neighbourhood large iron forges. At Limoges an hundred looms were employed in weaving druggets of hemp and wool; and the paper mills amounted to seventy. The large woollen manufactory at Cahors had declined; but those of Montauban continued to flourish. At Montpellier were considerable manufactures of blankets and silk handkerchiefs; but those of Nîmes were still more important in silk, cotton, and thread: and at Gange was the chief manufacture of silk stockings in all France. The Londers for the Levant were chiefly made at Beg-de-Rieux, and at Carcassonne. At Pau are large manufactures of linen. Tour has long been celebrated for silks. Beauvais, one of the most active towns in France, supplies tapestries and printed calicoes. The fabrication of plate glass at St. Gobin is well known as the first in Europe. At St. Quentin are made linen, cambric, and gauzes. Cambrics derive their name from Cambray; and the laces of Valenciennes have been long known. Lisle displays fine cloths and camblets. Mr. Young styles Rouen the Manchester of France, being a town eminent in commerce, and in manufactures of velvet, and cotton cloths; and Caen boasts of her silky fleeces. Bretagne in general has numerous manufactures of thread and linen. The fine cloths made at Louviers our author esteems the first in the world, and at the same place is a large cotton mill. Rheims is remarkable for woollens. The silk manufactures of Lyons were estimated to employ 60,000 people, the looms being computed at 12,000. Iron manufactures flourished at Nantes, Mont Cenis, St. Phillippe-en-foret, and several other places.

From this detail some idea may be formed of the commerce of France. By the account for 1784, which did not include the provinces of Lorraine and Alsace, nor the West Indian trade, the statement was

\* Young's France, i. 569.

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But

|                |                                      |
|----------------|--------------------------------------|
| Total exports, | 307,151,700 livres.                  |
| — imports,     | 271,365,000                          |
| Balance,       | 35,786,700 or L. 1,565,668 sterling. |

The trade with the West Indies gave a large balance against France, which, in 1786, exported to the amount of more than 64,000,000 livres, but the imports exceeded 174,000,000. The average imports of France in 1788 were about twelve millions and a half sterling, the exports nearly 15,000,000. The imports of Great Britain in the same year were about 18,000,000, the exports seventeen and a half \*. Since the French revolution the commerce of England has been constantly on the increase; while that of our rival has been almost annihilated.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

CLIMATE AND SEASONS.] THE climate of so extensive a country as France, may be expected to be various. In general it is far more clear and serene than that of England; but the northern provinces are exposed to heavy rains, which however produce beautiful verdure and rich pastures †. France may be divided into three climates, the northern, the central, and the southern. The first yields no wines; the second no maize; the third produce wines, maize and olives. These divisions proceed in an oblique line from the S. W. to the N. E., so as to demonstrate “that the eastern part of the kingdom is two and a half degrees of latitude hotter than the western, or if not hotter more favourable to vegetation.” One great advantage of the climate of France arises from its being adapted to the culture of the vine, which flourishes in spots that would otherwise be waste.

FACE OF THE COUNTRY.] The face of the country is generally plain, and the only mountains deserving of the name are found in the south, in Auvergne and Languedoc, Dauphiné and Provence. Brittany corresponds greatly with Cornwall, and abounds in extensive heaths. In Lorraine are found the mountains of Vosges, far inferior to the southern elevations. For beauty the Limosin is perhaps superior to any other province of France: yet much of the country is finely diversified with hill and dale, and the rivers, particularly the Seine, are often grand and picturesque.

SOIL AND AGRICULTURE.] The variations of the soil have been well described by Mr. Young ‡. The N. E. part from Flanders to Orleans is a rich loam. Further to the W. the land is poor and stony; Brittany being generally gravel, or gravelly sand, with low ridges of granite. The chalk runs through the centre of the kingdom, from Germany by Champagne to Saintonge; and on the N. of the mountainous tract is a large extent of gravel, but even the mountainous region of the south is gene-

\* Young, l. 529.

† Ibid. l. 309.

‡ Ibid. l. 298.

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\* Nicholson



rally fertile, though the large province formerly called Gascony present many *landes*, or level heaths.

The same writer has ably illustrated the defects of French agriculture, which consist in frequent fallows, while the English farmers obtain even superior crops of corn, by substituting turnips and other green crops to the fallows : besides the clear profit from his clover, turnips or tares.

In some of the provinces, however, the plans of agriculture correspond with the natural fertility of the soil ; and others display a most laudable industry. A striking instance of the latter is the artificial fertility conferred on some of the barren mountains of the Cevennes \*. As the waters which run down the sides carry considerable quantities of earth into the ravines, walls of loose stones are erected which permit the waters to pass when they are clear ; but when turbid their load of earth is gradually deposited against the wall, and affords a space of fertile soil. Successive ramparts are thus erected to the very top of the mountain ; and the water, having no longer a violent fall, only serves to nourish the crops, which are moreover protected by planting fruit trees at certain intervals, so as to lend security and consistence to the new acquisition. By another process calcareous mountains, which generally rise in shelves, are rendered productive by cutting away the rock behind the shelf, which supplies materials for a low wall around the edge. The interval is afterwards filled with earth, and the barren mountain is crowned with luxuriant terraces.

RIVERS.] The rivers of France form the next object of consideration ; and among these four are eminent, the Seine, the Loire, the Rhone, and the Garonne. The first is one of the most beautiful streams of France, rising near Saint Seine, in the modern department of Côte d'Or, a portion of ancient Burgundy ; it pursues its course to the N. W. till it enter the English channel at Havre de Grace, after a course of about 250 English miles. It may here be remarked that the length assigned to rivers is not calculated with exactness, a work of infinite and uncertain labour, but merely affords a comparative scale, to judge of the relation which the course of one river bears to another.

The Loire derives its source from Mont Gerbier in the N. of ancient Languedoc ; and after a northern course turns to the west, entering the ocean a considerable way beyond Nantes, after a course of about 500 miles.

The Rhone springs from the Glacier of Furca, near the mountain of Grimsel in Switzerland ; and after passing the beautiful vales of Vallais, and the lake of Geneva, bends its course towards the south, and enters the Mediterranean. The comparative course 400 miles.

The Garonne rises in the vale of Arau in the Pyrenees. The course of this river is generally N. W. It extends to about 250 miles. After its junction with the Dordogne, it assumes the name of the Gironde.

The Seine is almost universally pleasing and picturesque ; and the Loire presents noble features from Angiers to Nantes, but the rest of its immense course is disfigured with rough gravel †. The Garonne generally pervades a flat country, and is tamely fringed with willows. The Rhone is a noble and rapid stream.

France is adorned and enriched with many rivers of smaller course and reputation ; as the Saone, which joins the Rhone near Lyons ; the Lot and Dordogne, which joins the Garonne ; and the numerous tributary streams of the Loire.

\* Nicholson's Journal, iii. 293.

† Young's France, i. 305.



**LAKES.]** A few small lakes occur in Provence, among the Vosges of Alsace, and perhaps in some of the other provinces, but only adapted to the minute description of the topographer, France and Spain being singularly deficient in this pleasing feature of landscape.

**MOUNTAINS.]** Before proceeding to the grand chain of mountains in the S. of France, it may be proper briefly to mention a few mountainous tracts in the north. Those of Brittany are granitic and primitive, but like those of Cornwall of small elevation. They divide into branches towards Brest and Alençon. The Vosges, in the department of that name, in the S. of ancient Lorraine, are supposed to be connected with the mountains of Switzerland\*.

Mont Jura, a vanguard of the Alps, forms a boundary between France and Switzerland. If Mont Blanc be admitted among the French mountains, the other Alps cannot rival its supreme elevation. The ancient province of Dauphiné displays several Alpine branches, which also extend through great part of Provence.

The grand chain of the Cevennes passes from N. to S., and sends out branches towards the E. and W. In the modern departments of the upper Loire and Cantal, are appearances which, in the opinion of eminent naturalists, indicate ancient volcanoes. The northern part of this branch is styled the Puy de Dome, while the southern is called that of Cantal†. The Monts Dor‡ form the centre, and are the highest mountains in France. The chief elevation is that of the Puy de Sanfi, which rises about 6,300 feet above the level of the sea, while the Puy de Dome is about 5,000, and the Plomb du Cantal, the highest of that part, is about 6,200 feet. Near the Puy de Sanfi is the gigantic mountain l'Ango, and Ecorchade a shattered and wrecked elevation. The Plomb du Cantal is also accompanied by bold rivals, as the Puy de Griou, le Colde Cabre, le Puy Mari, and the Violent. This enormous assemblage of rocks covers an extent of about 120 miles, and according to the French authors is chiefly basaltic. The Puy de Sanfi is capped with almost perpetual snow, followed in the descent by naked rocks and ancient pines; from its side issues from two sources, the river Dordogne, and many picturesque cascades devolve amidst basaltic columns§. On the 23d of June, 1727, Pradines, a village on the slope of one of these mountains, was totally overwhelmed, the whole mountain with its basaltic columns rolling into the valley. The inhabitants were fortunately engaged in the celebration of midsummer eve around a bonfire at some distance||. These mountains are in winter exposed to dreadful snowy hurricanes, called *acirs*, which in a few hours obliterate the ravines, and even the precipices, and descending to the paths and streets, confine the inhabitants to their dwellings till a communication can be opened with their neighbours, sometimes in the form of an arch under the vast mass of snow. Wretched the traveller who is thus over-taken. His path disappears, the precipice cannot be distinguished from the level; if he stand he is chilled, and buried if he proceed; his eye-sight fails amidst the snowy

\* Lameth. Theo. de la Terre, iv. 384.

† Voy. Dans les depart. Cantal, p. 5.

‡ Nord d'Or, as commonly spelled. The name is derived from the river Dor, which with the Dogas forms the Dordogne. See Le Grand's curious voyage D'Auvergne, 3 vols. 8vo.

§ Ib. p. 19.

|| Voy. dans les depart. Cantal, p. 24. One vast block of stone, 90 feet long and 20 thick, being too heavy to roll, sunk vertically, and the shock seemed an earthquake even at the distance of a league. Another mountain is said to have recently sunk and disappeared in the S. of France.

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\* Journal des Mires, N  
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darkness; his respiration is impeded, his head becomes giddy, he falls and perishes. In summer thunder storms are frequent and terrible, and accompanied with torrents of large hail, which destroy the fruits and flocks, which for six months pasture on the mountains, guarded by shepherds, who have temporary cabins of turf and reed, styled *burons*.

The Pyrenees remain to be described. This vast chain, known and celebrated since the days of Herodotus, may be considered with equal justice as belonging either to France or to Spain; but as the most productive and interesting parts are on the side of France, and her literati have exerted themselves in the description, while those of Spain have been silent, it seems at least equally proper to introduce the delineation here, which shall be chiefly derived from the recent accounts of Ramond and Lapeyrouse\*. To the surprise of naturalists, the Pyrenees have been found to present calcareous appearances, and even shells and skeletons of animals, near or upon their highest summits, which are in the centre of the chain. Mont Perdu is considered as the highest elevation of the Pyrenees, ascending above the sea 1751 French toises, or about 11,000 feet English. Other noted heights are Marboré, the Pic de Midi, the Nieve Y-ille, &c. The Pyrenean chain appears at a distance like a shaggy ridge, presenting the segment of a circle fronting France, and descending at each extremity till it disappears in the ocean and Mediterranean†. Thus at St. Jean de Luz only high hills appear, and in like manner on the east, beyond the summit Canigou, the elevations gradually diminish. The highest summits are crowned with perpetual snow. Blocks of granite are interperfed with vertical bands, argillaceous and calcareous, the latter primitive or secondary, and supplying the marbles of Campan and Antin, of red and green spotted with white, though the general mountain mass be grey. To the S. and W. the Pyrenees present nothing but dreadful sterility, but on the N. and E. the descent is more gradual, and affords frequent woods and pastures. Besides the dreadful fall of rocks, undermined by the waters, they are exposed to Lavanges, or the impetuous descent of vast masses of snow, called Avalanches in Switzerland, and have their glaciers and other terrific features of the Alps.

According to Ramond‡ the very summit of mount Perdu abounds with marine spoils. This mountain is of very difficult access, as the calcareous rock often assumes the form of perpendicular walls, from 100 to 600 feet in height; and the snows, ice, and glaciers increase the difficulty. Near the summit is a considerable lake, more than 9000 feet above the level of the sea, which throws its waters to the east into the Spanish valley of Beoussa. The best maps of the Pyrenees are erroneous, as this lake has no connection with the noted cascades of Marboré, which flow from another lake to the west; and Lapeyrouse has pointed out other gross mistakes in the topography of this interesting district. Mr. Townsend§ observes, that the limestone and schistus feed the vegetation on the N. of the Pyrenees, while the south is barren and consists of granite; though mountains are generally barren and precipitous on the S. and W. because the most violent rains and tempests come from those regions.

**FORESTS.]** The forests of France are numerous and extensive; and as wood is the general fuel, attention to their growth becomes indispensable. Two of the most remarkable are those of Orleans and Ardenne, the former for extent and the numerous troops of banditti who used to infest its precincts; the latter for ancient fame and events of chivalry. The forest

\* Journal des Mires, No. 37, p. 33.

† Journ. des Min. No. 46. p. 737.

‡ Voy. dans les Dep. No. 67, p. 4.

§ Spain, i. 89.

of Ardennes extended from Rheims to Tournay, and on the N. E. to Sedan in the present department of the Ardennes. To these names might be added the forest of Fontainebleau, and many others which here to enumerate would be superfluous.

**BOTANY.]** Notwithstanding the pains that have hitherto been bestowed by French naturalists in illustrating the flora of their native country, it still remains in an imperfect state: particular districts, as the environs of Montpellier, of Lyons, and of Paris, have been surveyed with considerable accuracy, but many chasms must yet be filled before a comprehensive history can be made out of the vegetable productions of France. So great indeed is its extent, and so various its climate, that probably more than half the European species of plants may be found within its boundaries. The bleak shores of the North, the fertile plains on the Belgian frontier, the rich vales of the Loire, the Rhone and Garonne, the towering heights of Auvergne, the exterior ridges of the Alps and Pyrenees, the sunny exposure of the Mediterranean coast, offer such striking differences of soil and temperature, as evince at once a most abundant catalogue of indigenous plants. That country which produces in full and equal perfection wheat and apples, maize and grapes, oranges and olives, the oak and the myrtle, must doubtless exceed all other European countries of equal extent in the variety and richness of its vegetable treasures. A bare enumeration of them would occupy more room than can be allotted to them in a work like the present. We shall therefore only particularise such as are the most generally interesting to the English reader.

Of the large family of compound flowers may be mentioned the lavender cotton, and common southern wood, both of them plentiful on the rocks of Dauphiné and Provence; the alpine *Cacalia* abounds on the mountainous frontiers of Savoy and Piedmont, and a few esculent vegetables that are cultivated in our kitchen gardens, but grow wild in Languedoc and Provence, arrange themselves under this class; for instance, the artichoke, farsafy, and scorzonera.

The cucumber, the melon, the gourd, and other kindred genera, though cultivated largely and with great ease in the South of France, are yet natives of hotter climates; only one of this natural family, the *Momordica elaterium*, *squirling cucumber*, properly belongs to the French flora; it occurs in a truly wild state, on low loose rocks, in Provence and Languedoc.

The nearer in general any country is situated to the tropics, the greater is the abundance and beauty of the bulbiferous or liliaceous plants that inhabit it: the South of France is particularly rich in these splendid and fragrant vegetables, several of which have been naturalized in our gardens, and constitute their principal ornament. The large branched *Asphodel*, a flower of great beauty and poetic fame, is by no means uncommon in Provence. The tawny day-lily, clustered hyacinth, and spiked star of Bethlehem, all are found in the Mediterranean provinces of France, as are also the orange, pompadore, and martagon lilies; the white hellebore, Narcissus, and Jonquil. The shore of Hieres is adorned by the sea daffodil, growing luxuriantly on the very beach; and on the lower cliffs of the Nicene and Genoese Alps, the gigantic *Agave*, *American aloe*, now naturalized to the soil and climate, raises her stately flower-stem to the height of 20 or 30 feet, and looks down on every herbaceous plant of European origin.

Of the papilionaceous plants that are natives of this country, several deserve notice for their use or ornament. *Lathyrus tuberosus*, a vegetable

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• Young's France,

of the pea kind, grows wild in Alsace, and is cultivated in many parts of France for its large, esculent, tuberous roots; the great lupin, varying with blue, white, or flesh-coloured blossoms, and chick pea, are met with in the southern provinces growing spontaneously, but are more frequently cultivated in large fields, as food both for cattle and man; in England the former is considered merely as an ornamental plant, and is found in every flower-garden.

The broad-leaved myrtle grows with great luxuriance along the whole of the Mediterranean coast; the Caper-bush, the laurel-leaved and Montpellier cistus, three low shrubs of exquisite beauty, hang from the summits, or cluster round the sides of the low rocks about Toulon and Montpellier. In the same vicinity also are found the Provence rose, the pyracantha, and the pomegranate tree.

**ZOOLOGY.]** The horses of France do not appear to have been celebrated at any period, and it is well known that the ancient monarchs were drawn to the national assemblies by oxen. Many English horses are in times of peace imported for the coach and saddle. The best native horses are, for draught, those of Normandy; for the saddle, those of the Limousin, which have been recently improved by crossing the breed with the Arabian, Turkish, and English\*. But the greater number of horses in France consists of Bidets, small animals of little show, but great utility. The cattle of Limoges, and some other provinces, are of a beautiful cream colour. The sheep are ill managed, having in winter only straw, instead of green food as in England†. The consequences are poor fleeces, and rarity of sheep, so that the poor are forced to eat bread only, and large quantities of wool are imported. Of ferocious animals the most remarkable are the wild boar and the wolf; the ibex and chamois are found on the Pyrenees and the Alps.

**MINERALOGY.]** Gold mines anciently existed in the South of France, and some of the rivulets still roll down particles of that metal. The ancient Gallic coins are however of a base gold mingled with silver, being the metal styled by the ancients electrum. France can, however, boast of the silver mines at St. Marie-aux-mines in Alsace, and at Giromagny in the department of the Upper Rhine, near the mountains of Vosges, also a part of ancient Alsace. The same district contains mines of copper, a metal not unfrequent in the departments of the Alps, and those of the Loire, the Lozere, and the Ardèche. The duchy of Deux Ponts, a valuable acquisition of France on the west of the Rhine, is celebrated for mines of quicksilver. The mountains which contain this metal embrace a district of ten or twelve leagues in length, S. to N. from Wolfstein to Cruznach and seven or eight leagues in breadth, being of a reddish brown or grey sand-stone. In this territory, among numerous mines of quicksilver, are those of Stahlberg and Donnerberg, which have been explored for many centuries. The adjacent part of the Palatinate also contains similar mines, particularly in the mountain of Potzberg and at Wolfstein. The annual product of these mines may be estimated at 67,200 pounds of mercury‡. Two-thirds of the lead of France are from Bretagne, particularly the mines of Poullaouen and Huelgoet; mines of lead also occur in the maritime Alps, and in the mountains of Vosges, in the departments of Lozere, Ardèche, &c. &c. Antimony occurs in the Ardèche, in the department of the Allier, at Allemont in former Dauphiné, and in that of Mont Blanc. There are noted mines of calamine near Aix-la-Chapelle. Manganese occurs in the department of the Loire,

\* Young's France, ii, 55.

† Ibid. i. 430.

‡ Journ. des Mines, xi. 40.

and in that of the Vosges; and at Romaneche, in the department of the Saone and Loire; it is also found near Perigou, whence it used to be called pierre de Perigord: Cobalt is another product of Alsace. The new acquisitions in Savoy present some mercury; and there is a mine at Menildot.

Iron, that most important and universal of metals, is found in abundance, particularly in some of the northern departments. In 1798 it was computed that there were 2000 furnaces, forges, &c. for the working of iron and steel\*.

The coal mines of France were at the same time estimated at 400, constantly wrought; and 200 more capable of being wrought. Of these coal mines many occur in the provinces which formerly belonged to Flanders, and in the departments of Boulogne and La Manche. Coal is also not unfrequent in the centre and south of France. Nearly allied to coal is jet, an article formerly of great consumption, chiefly in Spain, where it was made into rosaries, crosses, buttons for black dresses, &c. †. France was from time immemorial in possession of this branch, which was centered in three villages in the department of the Aude, in the S. W. of ancient Languedoc.

Besides excellent free-stone, the environs of Paris contain abundance of gypsum. Alum is found in considerable quantities at Aveyron. The Pyrenees in particular supply beautiful marbles.

**MINERAL WATERS.]** The chief mineral waters of France are those of Barrège, Bagnères, Vichi, and Plombières. The warm baths of Barrège, in particular, at the foot of the Pyrenees, have been long celebrated, and there the Queen of Navarre lays the scene of her tales. The baths of Bagnères are in the same neighbourhood.

**NATURAL CURIOSITIES.]** Among the natural curiosities of France, the most worthy of notice is the plain of La Crau, which lies in Provence, not far from the mouth of the Rhone. This is the most singular stony desert that is to be found in France, or perhaps in Europe ‡. The diameter is about five leagues, and the contents from 20 to 25 square leagues, or about 150,000 English acres. It is entirely composed of shingle, or round gravel, some of the stones as large as the head of a man, and the shingle of the sea shore is not more barren of soil. Beneath is a small mixture of loam with fragments of stone. In the winter there are scattered piles of grass, which, from the vast extent of the space, pasture a considerable multitude of sheep. In general, however, France, being mostly a plain country, does not present much singularity of feature; and the scenes of the Cevennes and Pyrenees have been little explored by travellers, who, passing to the chief cities, generally see only the most uninteresting parts of the country.

**FRENCH ISLES.]** The isles around France are so small and unimportant, that they would scarcely be deserving of notice, were it not for events that have taken place during the late war. The isle of Corsica must however be excepted. From the dominion of Carthage, this isle passed under that of Rome, and was for sometime subject to the Saracens of Africa. In the time of the crusades it was assigned to the republic of Pisa, and was afterwards conquered by the Genoese. In 1736 the malcontents rejected the Genoese yoke, and chose a German adventurer for their king. After many ineffectual struggles Corsica was ceded to the French. The Romans certainly did not highly esteem this island, when they

\* Ibid. Ann. vii. p. 171.

‡ Young, i. 279.

† Journ. des Mines, Ann. iii. No. 4. p. 41.

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\* La Croix, i. 524.



selected it as a place of exile; and, according to a modern French geographer, "the air of Corsica is thick and unwholesome, the territory full of mountains, of little fertility, and ill cultivated: the valleys, nevertheless, produce corn, and the hills wine, fruits, and almonds\*."

The isles called Hyeres, near Toulon, have at present a barren and naked appearance, and only present some melancholy pines†. They, however, contain some botanic riches, and may claim the fame of being Homer's isle of Calypso.

On the western coast first occurs the isle of Oleron, about fourteen miles long by two broad, celebrated for a code of maritime laws issued by Richard I. king of England, of whose French territory this isle constituted a portion. To the N. is the isle of Ré, opposite Rochelle, noted for an expedition of the English in the seventeenth century. Yeu is a small and insignificant isle, followed by Noirmoutier, which became remarkable in the war of La Vendée, being about eight miles long and two in breadth. Bellise has been repeatedly attacked by the English: it is about nine miles long and three broad, surrounded by steep rocks, which, with the fortifications, render the conquest difficult. The isle of Ushant, or Ouessant, is remarkable as the furthest headland of France, towards the west, being about twelve miles from the continent, and about nine in circumference, with several hamlets, and about 600 inhabitants. Several other small isles may be passed in silence, but those of St. Marcou, about seven miles S. E. of La Hogue, may be mentioned as being once in our possession: they received their name, it is believed, from a Norman saint, Marcoul, abbot of Nantouille, who died in 558.

## NETHERLANDS.

*Namés.—Extent.—Original Population.—Historical Epochs.—Antiquities. Religion.—Government.—Laws.—Population.—Revenue.—Political Importance and Relations.—Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Inland Navigation.—Manufactures and Commerce.—Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**T**HOSE provinces of the Netherlands which were formerly subject to the house of Austria, have been recently annexed to the French dominions; and as this fertile territory may probably continue to be united to France, it becomes necessary to use as much brevity as possible in the description, that it may not be disproportionate to the account of that country.

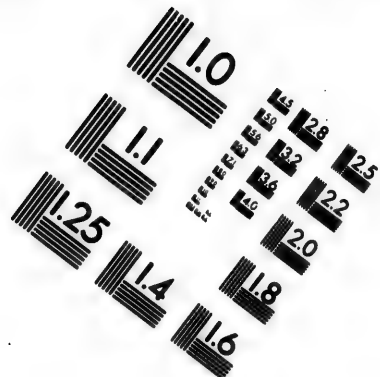
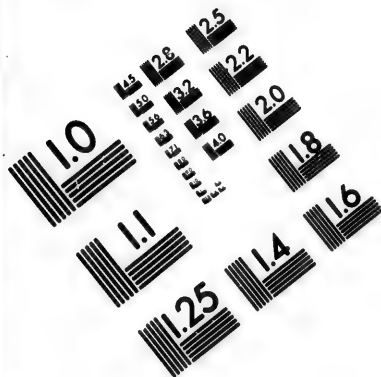
**NAMES.]** The Netherlands in general were anciently known by the name of Belgic Gaul, the chief inhabitants of this part being the Menapii, the Tungri, the Nervii, and the Morini. After the irruption of the Franks, this country formed part of Neustria, or the new kingdom, (the

\* La Croix, i. 524. For the Isle of Elba, see Italy.

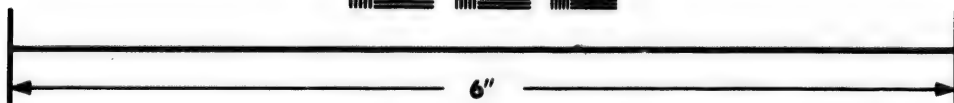
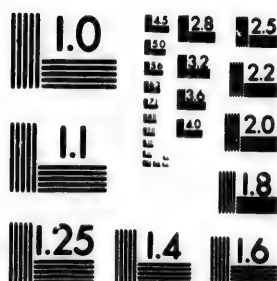
† Young's France, i. 105.







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ancient kingdom of the Franks being on the E. of the Rhine,) partly belonging to the province of Flandria, and partly to that of Lotharingia, or Lower Lorrain \*. In the middle of the ninth century arose the powerful house of the earls of Flanders; and the counts of Hainaut commence about the same epoch. The dukes of Lower Lorrain and Brabant are little known till the end of the tenth century. These and other great inheritances gradually fell under the power of the dukes of Burgundy, who in the fifteenth century enjoyed dominions worthy of the regal title. With the heiress of Burgundy the Netherlands passed by marriage to the house of Austria.

**EXTENT.]** The length of the Austrian Netherlands, computed from the eastern limit of Luxembourg to Ostend on the ocean, may be about 180 British miles; and about 120 in breadth, from the northern boundary of Austrian Brabant to the most southern limit of Hainaut. The extent is computed at 7,520 square miles, with a population of 1,900,000.

**ORIGINAL POPULATION.]** The original population was Celtic, but was supplanted by the Belgæ, a German colony, afterwards vanquished by the Franks, a kindred nation. The progressive geography may be traced with great certainty from the time of Julius Cæsar through the later Roman writers, and the Francic historians of the middle ages.

**HISTORICAL EPOCHS.]** The chief historical epochs are, 1. The events while the Romans held Gaul.

2. Under the Merovingian race of French kings.

3. The ancient earls of Flanders and Hainaut, and other potentates who shared these territories.

4. The dukes of Burgundy. During these two epochs the Netherlands became the great mart of commerce in the west of Europe, and were distinguished by opulence and the arts.

5. The Austrian domination, accompanied with repeated unsuccessful struggles for freedom. The seven United Provinces having, however, established their liberty, the commerce and prosperity of the southern regions passed quickly to their northern neighbours.

6. Their conquest by the French, and annexation to the territory of the republic.

**ANTIQUITIES.]** The remains of Roman art are little memorable, and the chief antiquities consist in grand ecclesiastical and civil monuments of the middle ages, when these regions concentrated a great part of the wealth of Europe, and abounded in excellent artists of all descriptions.

**RELIGION, &c.]** The religion of the Netherlands is the Roman Catholic; and till the French revolution, the inhabitants were noted for bigotry, a great part of the wealth being in the hands of ecclesiastics. The metropolitan see was the archbishopric of Mechlin, or Malines. The bishoprics were those of Bruges, Antwerp, Ghent, &c., in number nine or ten. The government and laws had some features of freedom; but the decline of commerce having lessened the consequence of the cities and burghesses, this liberty became the monopoly of the nobles and clergy, who often opposed the will of the sovereign, when exerted in the most beneficial manner for the good of the community. The *Joyeuse Entrée* was the magna charta of the Netherlands, a constitutional bond of national privileges.

**POPULATION, &c.]** The population being computed at 1,900,000, and the square extent at 7,520 miles, there will be 252 inhabitants to the square mile, while France yields only 174. Under the Austrian power, the

\* D'Anville, *Essai sur l'état de l'Europe*, 70, &c.

revenue of the Netherlands scarcely defrayed the expences of government, and the various extortions of the French rulers cannot afford sufficient data to compute an equitable and lasting revenue. The political importance and relations of these provinces are now immersed in those of the French republic.

**MANNERS AND CUSTOMS.]** The manners and customs of the Netherlands partake of those of their neighbours, the Dutch and French, the phlegm of the one being tempered by the vivacity of the other. The lower classes were fond of religious pageantry, and much addicted to the superstitious observances of the Catholic system. The Flemish language partakes of the German and of the Dutch.

**LITERATURE.]** These provinces boast of early literature, after their conversion to Christianity in the seventh century, in various chronicles and lives of saints; but in modern times they have rarely produced writers of great talents. The native language remains uncultivated, and the chief authors have used the Latin or the French. Froissart was born at Valenciennes, in French Flanders; Philip de Cominés, at the town so called, about eight miles to the N. of Lisse, and situated in the same division. Lipsius, a man of considerable erudition, was born near Brussels. But in general the southern Netherlands are more eminent in artists; and the United Provinces in literary characters.

**EDUCATION.]** The education was neglected as in most Catholic countries, where the Jesuits in vain attempted to bring it to a level with that of the Protestant states. The universities, which in no country are of equal importance with the schools, were, however, numerous, considering the extent of the country. Exclusive of Tournay (Dornick), which has been long subject to the French, there were others at Douay and St. Omer, much frequented by the English Catholics; and one of still greater celebrity at Louvain, founded in 1425.

**CITIES AND TOWNS.]** The three chief cities in what were called the Austrian Netherlands, are Brussels, Ghent, and Antwerp. The capital city of Brussels still contains about 80,000 inhabitants, and is beautified by a noble square, one side of which is occupied with a vast guildhall; and by numerous churches and fountains. It is situated on the small river Sen, or Senne, which runs into the Dyle and the Scheld. It is known as early as the tenth century, and in the fourteenth was surrounded with walls. The imperial palace, the wonted residence of the governor of the Netherlands, displays considerable taste and magnificence.

Ghent contains about 60,000 souls, and the circumference of the walls is computed at 15 miles, as it is built on a number of little islands formed by four rivers and many canals, and includes gardens, and even fields. Some of the streets are large and well paved, but only a few churches now deserve attention.

The inhabitants of Antwerp are computed at 50,000, the sad remains of great population and prosperity. This city, being placed upon the noble estuary of the Scheld, and formerly the chief mart of Flemish commerce, possesses a strong citadel, erected by the sanguinary duke of Alva. The harbour is excellent, and the supposed impediments found to be fabulous. The streets, houses, and churches, are worthy of the ancient fame of the city. The exchange is said to have afforded the pattern for that of London. The churches are decorated with many paintings by Rubens, Vandyke, and other Flemish masters. In 1568 the trade is supposed to have been at its greatest height; and the number of inhabitants was computed at 200,000. It still contains a number of the rich descendants of the ancient merchants; with some commerce, and a few flourishing manu-

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factures, particularly of lace and linen. Of the other principal towns, Mons is computed at 25,000 inhabitants; Bruges, and Namur, each at 20,000; Luxembourg at 12,000; Roermond at 10,000; Limbourg at 8,000.

**SEA-PORTS.]** The sea-coast of Flanders, the maritime province, consists chiefly of sandy hills and downs, and has few inlets, as most of the rivers flow into the Scheld. There are, however, two ports which deserve particular notice. The Sluys\*, called by the French L'Ecluse, derives its name from the sluices, by which the circumjacent country may be laid under water. Guicciardini says, that the haven of Sluys was capable of containing 500 ships. The port and population now yield greatly to those of Ostend. This latter haven has been considerably frequented since the Scheld was abandoned. The town is still computed to contain 14,000 souls, though it suffered greatly by the famous siege which terminated in 1604, when it was gallantly defended by Sir Francis Vere, at the head of a few English troops. Many English families were settled here before Ostend fell a prey to the French.

**EDIFICES.]** In general it may be observed that, even at the present day, every traveller is impressed with surprise, not only at the number, but the great extent of the Flemish cities, towns, and even villages; in which respect the Netherlands exceed every country in Europe, only excepting the United Provinces. The chief edifices are the cathedrals, churches, and monasteries; though a few castles, belonging to ancient families, or rich merchants, used to attract some notice; the taste of the latter buildings being faithfully copied in the Flemish landscapes, and more remarkable for little prettiness, peaked roofs, fantastic ornaments, the muddy moat, and draw-bridge, than for grandeur of design, or amenity of situation.

**INLAND NAVIGATION.]** Idle would be the attempt even to enumerate the canals which intersect these provinces in all directions. Some of them date even from the tenth century, and the canal from Brussels to the Scheld is of the sixteenth. Other important canals extend from Ghent, Antwerp, Ostend, and other cities and towns, especially in the western districts; but, under the Austrian domination, these important means of intercourse were shamefully neglected.

**MANUFACTURES AND COMMERCE.]** The manufactures and commerce of the Netherlands, for a long period superior to any in the west of Europe, have suffered a radical and total decline, owing partly to the other powers entering into competition, and partly to the establishment of freedom in the United Provinces, whence Amsterdam arose upon the ruins of Antwerp. What little commerce remains is chiefly inland to Germany, the external employing very few native vessels. The East India Company established at Ostend was suppressed by the jealousy of England and other powers; and the chief commerce was afterwards carried on by the English established in that city. The present trade is chiefly with America. Yet of the manufactures a few fragments remain: Cambray, long subject to the French, is still renowned for the cambrics which thence derived their name; as Tournay, or Dornick, was anciently famous for the finest linens. At Bruges there are still some manufactures of broad sayes, baize, and other woollens; considerable fabrics of broad cloth, druggets, shalloons, and stockings, were conducted at St. Omers, chiefly

\* Sluys belonged to the United Provinces, but is here mentioned, considering the Netherlands to the Rhine as an appendage of France. Nieuport, a little fishing town, scarcely deserves notice.

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with wool smuggled from England. But the chief manufactures are of fine linen and laces, at Mechlin, Brussels, Ghent, Antwerp, Louvain, which still enrich the country around, and induce the farmers to cultivate flax, even on the poorest soils. The Netherlands produce, for home consumption, abundance of corn and vegetables; and the coal mines would become important, if the operations were skilfully conducted. There is besides abundance of turf for fuel, with iron, porcelain clay, and other commodities.

CLIMATE AND SEASONS, &c.] The climate of the Netherlands considerably resembles that of the south of England, and is more remarkable for moisture than for warmth; yet the duchy of Luxembourg produces some wine, which probably has the austerity of the Rhenish, without its spirit. The face of the country is in general level, and the semblance of hills can scarcely be discovered, except towards the east, where a few elevations relieve the eye from the general flatness of the other regions. The soil is in general rich sandy loam, sometimes interspersed with fields of clay, but more often with large spaces of sand. Such has been, even in distant ages, the state of agriculture, that the Netherlands were long esteemed the very garden of Europe, a praise which they still share with Lombardy and England. No stronger proof can be adduced of the advantages which commerce confers on agriculture, than this country, which evinces that the latter advantage chiefly arises from commercial opulence employed in its most useful direction. Accurate observers repeatedly praise the state of agriculture in the Netherlands, and point out many advantages which it maintains over that of England. The repeated crops of excellent clover, the cole, the turnips, the clean crops of flax, barley, and oats, deservedly attract their attention. The agriculture has been celebrated for these 600 years, ever since their commerce and manufactures became eminent; and they still possess the essentials of good husbandry, in the destruction of weeds, and perpetual crops. In passing through Flanders, in 1805, the author of this work was delighted with the perfection of the agriculture.

RIVERS.] The Netherlands are watered by so many rivers and canals, that it will be sufficient to mention only a few of the chief streams. The Rhine belongs to Germany, passing at a considerable distance to the W. of the frontier; and but a small extent of the Meuse, or Maes, pervades the county of Namur, in these Netherlands. The chief river is the Scheld, which receives two other streams, the Lys and the Scalpe, the latter near Mortagne, the former near Ghent. All these rivers arise in the county of Artois, from no considerable elevation; and the whole course of the Scheld, or French Escaut, cannot be comparatively estimated at above 120 miles\*. The Dyle rises not far to the N. W. of Namur, and joins the Scheld above Niel, after receiving from the E. the Dermer, the Nette or Nethe, from the N. and the Senne from the S. Most of the other rivers yield in importance to the canals, and it would indeed be difficult in many instances to determine whether their course be the work of nature or art. There is no lake worthy of commemoration.

MOUNTAINS, &c.] Though there be little ridges of hills in the counties of Namur and Luxembourg, the traveller must proceed to the distant banks of the Rhine before he meets with any elevation that can deserve

\* The Scheld properly rises about eight miles N. of St. Quintin, in the modern department of the Aisne.

the name even of a small mountain. There are, however, several woods even in the centre of Flanders; and in Brabant is the forest of Soigne. further to the E. and S. are immense forests, which almost pervade Hainaut and Luxembourg, from Valenciennes to Treves, forming striking remains of the ancient forest of Ardennes.

**BOTANY.]** The vegetable productions of the Catholic Netherlands differ in no respect from those of Holland, and almost all the plants that are natives of this country may be met with in the sandy and marshy districts of the south-east coast of England. A few species, indeed, which are rare with us, are of frequent occurrence in the Netherlands, particularly the marsh ragwort, in shallow ditches; field eryngo, in great plenty by the side of the roads; and the elegant fringed water lily, adorning the canals, and other deep slow streams.

The zoology of the Netherlands affords no remarkable materials. The breed of horses and cattle is esteemed for size.

**MINERALOGY.]** So plain a country cannot be supposed to supply many minerals: yet coal, perhaps the most precious of them all, is found in several districts, and the ingenuity of the French has been exerted in an improvement of the operations. In the county of Namur are also found lead and copper; and Hainaut affords iron and slate. From its iron works Luxembourg derives its chief wealth; and the forest of Ardennes is still renowned for the metal of war. Marble and alabaster are also found in the eastern districts.

## RUSSIA IN EUROPE.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Extent.—Boundaries.—Names.—Original Population.—Progressive Geography and present Boundaries.—Provinces.—Historical Epochs and Antiquities.*

**EXTENT.]** THE Russian empire is, perhaps, the most extensive that ever existed; the length being about 9,200 English miles, and the breadth 2,400\*.

**BOUNDARIES.]** By the final partition of Poland, European Russia now extends from the river Dniester to the Uralian mountains, that grand chain which naturally divides Europe from Asia, a length of about 1600 miles; and in breadth above 1000 English miles. The extent is computed at about 1,200,000 square miles.

**NAMES.]** Even the European part of the Russian empire embraces many ancient kingdoms and states; but the chief name, that of Russia,

\* Tooke's View of the Russ. Emp. 3 vols. 8vo. i. p. 6.



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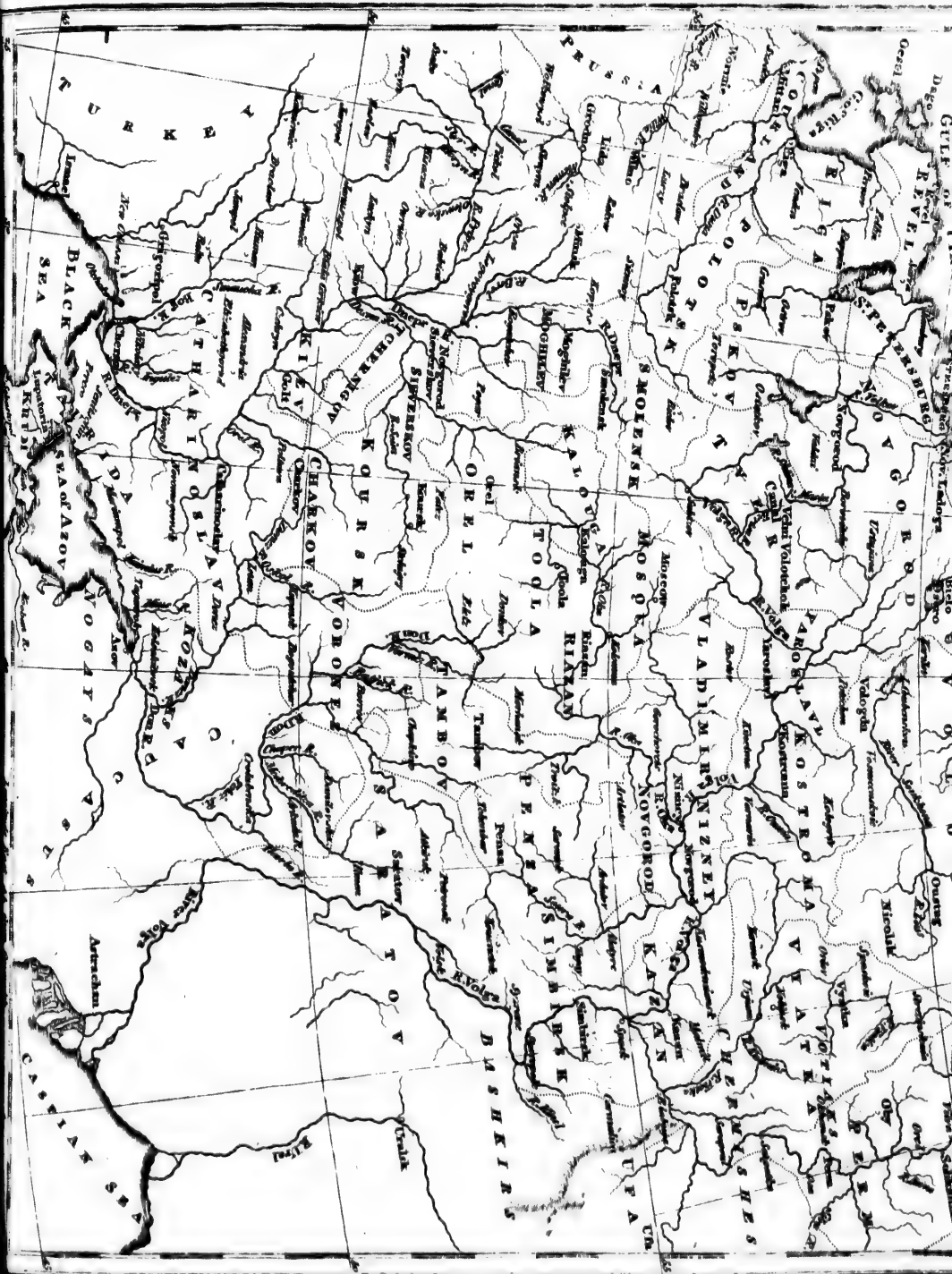
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shall only be here considered. Amidst the grand conflux of nations towards the west, which attended the decline and fall of the Roman Empire, the Slavonic tribe of Rosli escaped the observation of history till the ninth century; and it is uncertain whether the term were native, or imported by the Scandinavian chiefs who founded the Russian monarchy\*. In the sixteenth century, when Russia first attracted the observation of enlightened Europe, we find that the new appellation of *Muscovia* had unaccountably passed among foreigners from the capital to the kingdom; an impropriety which long maintained its ground, and has not even yet finally expired.

**ORIGINAL POPULATION.]** The grand population of the European part of the Russian empire is well known to be Slavonic. The Slavons form an extensive original race of mankind, radically distinct from the Goths on the one hand, who, as possessing the countries more to the west, must have preceded the Slavons in their passage from Asia into Europe: and equally distinguishable in language, person, and manners, form the Tatars, and other nations on the east. They are the Sarmatæ of the ancients, and were ever remarkable for personal elegance and strength.

**PROGRESSIVE GEOGRAPHY.]** To enter much into the progressive geography of the Russian empire, would be to write a history of its revolutions. Till the sixteenth century this empire continued almost unknown to the rest of Europe, and its geography must be faintly traced in the Byzantine annals, particularly in the work of Constantine Porphyrogenitus on the administration of the empire. Even at that period the Russians held the spacious province around Moscow; and though confined on the east, extended their power to the Baltic, and the vicinity of Prussia. Towards the S. the river Borysthenes conducted them to the Euxine sea. The capitals were Novgorod and Kiow; the former afterwards famous for its alliance with the Hanseatic league: the latter still memorable for its catacombs.

The victories of the Tatars constrained the Russian princes to abandon Kiow about the middle of the twelfth century, and that city having been ruined by the Tatars in the thirteenth, Moscow became the seat of empire. The geography of Russia, in the middle ages, becomes not a little embarrassed from its repeated sub-division into small monarchies, which remained in a state of vassalage to the Tatars till the year 1462, when Russia emerged from this eclipse, and gradually acquired its present extent and consequence. The great founder of the Russian power was Ivan IV., who reigned from the year 1534 to 1584, and subdued the Tatar kingdom of Astracan, and some provinces on the N. W. His successor, Feodor I., turned his arms towards Siberia, a country which has been, however, most slowly investigated, and indeed scarcely known till the year 1730. In modern times, Russia has gradually extended her limits at the expence of the Turks; and the addition of an ample third of Poland has afforded her a source still more stable, and fertile of men and power.

**DIVISIONS.]** No country in Europe has undergone so many alterations in regard to its politico-geographical division as Russia. Peter I. divided the empire into eight governments. In the year 1763, when Catherine II. began a great reformation in the colleges of the empire and the provincial chanceries, they had increased to eighteen. In the following year this number was increased by two; and in 1773, by the

first division of Poland, two more were added. The empire consisted of these twenty-two governments, when stadtholderships or viceroyalties were introduced in 1776. Before the establishment of them was fully completed, Russia was enlarged by the accession of the Crimea. Of these twenty-three provinces, forty-two stadtholderships were formed; and this division existed from 1786 to 1794. In the years 1795 and 1796 their number, by new conquests on the Dneitter and in Poland, and by the subjection of Courland, was increased to fifty. The establishment of these eight new governments changed the political geography in the whole of the southern, and in part of the western districts of Russia. But scarcely had these extensive alterations been made, when, in the year 1796, the whole of the political division hitherto established was changed, and the fifty governments reduced to forty-one. Other alterations were afterwards made; but on the accession of the present emperor Alexander I. he thought proper to revive most of those governments which had been abolished under the reign of his predecessor. An ukase for this purpose appeared in the month of September 1801, in consequence of which the forty-one existing governments were increased by five, which had all before existed; afterwards three were added, which with Russia made the number again fifty. The following is an enumeration of the governments as they stood in 1803.

1. Moskva. 2. St. Petersburg. 3. Novogorod. 4. Olonetz.
5. Archangel. 6. Pskove. 7. Smolensk. 8. Tula. 9. Twer.
10. Kaluga. 11. Jaroslaf. 12. Kostroma. 13. Vlodimir. 14. Vologda.
15. Nisneygorod. 16. Wiutka. 17. Kasan. 18. Perm.
19. Tobolsk. 20. Tomsk. 21. Irkutsk. 22. Orenburg. 23. Simbirsk.
24. Penza. 25. Saratof. 26. Astrakan. 27. Caucasus.
28. Voronish. 29. Tambof. 30. Râzan. 31. Kursk. 32. Orel.
33. The Slobodish Ukrain. 34. Ekaterinaflaf. 35. Tauria.
36. Cherfon (Nikolayef.) 37. Poltowa. 38. Tschernigof. 39. Kief.
40. Podolia. 41. Volhynia. 42. Grodno. 43. Vilna. 44. Vitebsk.
45. Mogilef. 46. Minsk. 47. Courland. 48. Livonia. 49. Esthonia.
50. Finland. 51. Grutia\*.

[HISTORICAL EPOCHS.] The following appear to be the chief historical epochs of this mighty empire:

1. The foundation of the kingdom by Ruric, a Scandinavian chief, A. D. 862. His descendants held the sceptre above 700 years.
2. The naval expeditions of the Russians against Constantinople, in the tenth century.
3. In the same century the baptism of Olga the queen, and the subsequent conversion of the Russians to Christianity.
4. The invasion of the Tatars under Batu Khan in 1236, and the subsequent vassalage of Russia.
5. The abolition of the power of the Tatars by Ivan III. who died in 1505.
6. The reign of Ivan IV. surnamed Basilowitz, known to western historians by the style of the tyrant John Basilides.
7. The death of the Czar Feodor in 1508, with whom expired the long progeny of Ruric. Several impostors afterwards appeared, under the name of Demetrius, the murdered brother of this sovereign.
8. The accession of the dynasty of Romanow, 1613, in the person of Michael Feodorowitz, sprung in the female line from Ivan IV. He was followed by his son Alexis, father of Peter the Great.

\* Rußland unter Alexander dem Ersten, by H. Storch, Petersburg, 1804.

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9. The reign of Peter I. has been justly considered as a most important epoch in Russian history; but on reading the annals of the preceding reigns from that of Ivan IV. it will be perceived that a part of our admiration for Peter arises from our inattention to his predecessors, and that the light which he diffused was far from being so sudden and grand as is commonly imagined.

10. The late reign of Catherine II. deserves to be commemorated among the most brilliant epochs in the Russian annals; nor must her personal crimes exclude her from the list of great and able sovereigns.

ANTIQUITIES.] Of ancient monuments, Russia cannot be supposed to afford great variety. Sometimes the tombs of their pagan ancestors are discovered, containing weapons and ornaments. The catacombs at Kiow were perhaps formed in the Pagan period, though they be now replete with marks of Christianity. They are labyrinths of considerable extent, dug, as would appear, through a mass of hardened clay, but they do not seem to contain the bodies of the monarchs\*.

The conversion of the Russians must of course have been followed by the erection of many churches; but as Byzantine, or Italian architects were employed, those edifices have but few peculiarities. Perhaps no country of considerable extent can afford fewer monuments of ancient art than Russia.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Population.—Colonies.—Army.—Navy.—Revenues.—Political Importance and Relations.*

RELIGION.] THE religion of Russia is that of the Greek church, of which, since the fall of the Byzantine empire, this state may be considered as the chief source and power.

ECCLESIASTICAL GEOGRAPHY.] The patriarch of the Russian church had usurped extraordinary powers, to the great injury of the Imperial prerogative; but the spirit of Peter I. broke these ignominious bonds, and the patriarchs have since become complaisant instruments of the court. The clergy are very numerous, and have several privileges, particularly exemption from taxes. They have been computed at 67,000, secular and regular. The Greek religion permits the marriage of the secular clergy. The cathedrals and parish churches in the empire are computed at 18,350; the monasteries at 480; nunneries 74; monks supposed to be 7,300; nuns 3000. The monasteries have not been such favourite resorts since Peter I. and Catherine II. opened the sources of industry. The bishoprics amount to about 30.

GOVERNMENT.] The government of Russia appears to have been always despotic, there being no legislative power distinct from that of the sovereign. What is called the senate is only the supreme court of judicature. The whole frame of the government may be pronounced to be military; and nobility itself is only virtually estimated by rank in the army.

\* Herbin. Cryptæ Kijovienses.

By an ukase issued by the present emperor Alexander in the month of June 1801, the rank of Senator is declared the highest in the kingdom. As the guardian of the laws, the senate watches over the general execution of them; has a vigilant eye to the collecting of the public duties; provides means for relieving the necessities of the people, for maintaining public peace and tranquillity, and for preventing all proceedings contrary to law in all the inferior departments. It has the revision of all affairs both civil and criminal. From the decisions of the senate there is no appeal. Torture was entirely abolished in 1801.

**LAWS.]** Immediately on the fall of the Roman empire, we find the Gothic tribes sedulously collecting and publishing their peculiar codes of laws, but it would be difficult to discover any Slavonic code till the sixteenth century, when they emanated, not from the national council, but from the arbitrary will of the monarch. The first Russian code dates from the reign of Ivan IV. and the late empress had the merit of drawing up a new code with her own hands.

**POPULATION.]** The population of Russia is so diffuse, and spread over so wide an extent of territory, that very opposite opinions have been entertained concerning it. By most writers it was only estimated as equal to that of France, or about 25,000,000; and it was at the same time supposed that the recent acquisitions in Poland might add 5,000,000 to the amount: but in 1783, more exact estimates were prepared; and in the 41 vice-royalties, then composing the empire, the state of male inhabitants \* was as follows:

|                                   |   |   |            |
|-----------------------------------|---|---|------------|
| Merchants,                        | — | — | 107,408    |
| Burghers,                         | — | — | 293,793    |
| Odnodvortzi, and free countrymen, | — | — | 773,656    |
| Exempt from taxes,                | — | — | 310,830    |
| Crown boors,                      | — | — | 4,664,603  |
| Private boors,                    | — | — | 6,678,239  |
|                                   |   |   | <hr/>      |
|                                   |   |   | 12,838,529 |

The number of females being supposed to equal that of the males, a population would arise of 25,677,000. The most important accession to the Russian population arises from the partitions of Poland, which, with small acquisitions from the Porte, have been thus stated †:

|                                           |   |           |
|-------------------------------------------|---|-----------|
| At the first partition of Poland in 1773  | — | 1,226,966 |
| From the Porte in the years 1774 and 1783 | — | 171,610   |
| From the Porte in the year 1791           | — | 42,708    |
| At the second partition of Poland 1793    | — | 3,745,663 |
| By the subjection of Courland             | — | 387,922   |
| At the third partition of Poland 1795     | — | 1,407,402 |
|                                           |   | <hr/>     |
|                                           |   | 6,982,271 |

The following account, according to Mr. Tooke, presents the whole population of the empire in 1799:

By the revision of 1783 there were in the governments,  
computing the female sex as equal to the male of registered } 25,677,000  
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\* Even male babes are included in the capitation tax, under the denomination of their parents.

† Tooke, l. 327.

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bility allow less than } 1,500,000

Consequently the Russian empire, in the year 1783, }  
might have inhabitants amounting altogether to } 27,397,000

According to the results deduced from experiments }  
and observations on the fruitfulness and mortality in }  
Russia, this mass must, of itself, have increased annually }  
more than half a million. If, in order to keep as }  
far as possible from all exaggeration, we deduct the }  
half of this surplus of births, to allow for the dimi- }  
nution it may have suffered by an extraordinary }  
mortality, as by war; there remains by every year }  
an increase of 250,000 new citizens, which, exclusively }  
of all ascending proportion, in 12 years makes a sum }  
total of } 3,000,000

The new acquisitions since the year 1783, or the pre- }  
sent nine vice-royalties of Taurida, Minsk, Bratzlau, }  
Vofnesensk, Podolia, Volhynia, Courland, Vilna, and }  
Slonim, contain, according to a legitimated statement }  
already mentioned, } 5,755,000

Consequently we may admit, by the most moderate }  
estimate, the population of the Russian empire at pre- }  
sent to be } 36,152,000

Of this population Mr. Tooke assigns only about three millions and a half to Siberia, or Asiatic Russia, which contains the five governments of Perm, Vfa, Kolhyvan, Tobolsk, and Irkutsk; but Perm is itself situated on the European side of the Uralian mountains, so that we might, perhaps, allow even 33,000,000 for the population of European Russia. It is probable, however, that the German authors, pensioned in Russia, have swelled the accounts of the population, to flatter the sovereign.

CONDITION OF THE PEASANTS.] The Russian peasants are the serfs or slaves of their masters \*. But in general each proprietor agrees to receive from each vassal a certain sum annually, called obrok, and then he may go where he pleases and labour for himself and his family. For this purpose he is furnished with a pass, and leaving his village he repairs to some town or city, even as far as Livonia or Esthonia, where he works the whole summer, as a carpenter, ditcher, &c. and gains as much as is sufficient to support himself and family during the winter months, and also to pay his obrok.

Those who remain at home employ themselves in agriculture and other rural occupations. In winter they apply to weaving and other branches of manufacture.

A proprietor never cares where his vassals go, provided they are furnished with a pass and pay him the obrok or tax imposed upon them. The Russians are too much attached to their country and religion to ever think of emigrating; and the peasants, even when they are obliged by bad treatment or other causes to change their master or place of abode,

\* Some of the nobility in Russia have begun lately to give freedom to their slaves.

choose rather to unite themselves to the Cossacs of the Don than to pass the boundaries of the empire. Desertion even to other countries is very uncommon among the soldiers.

Each boor, according to his condition and expertness, must pay to his master five, ten, or more rubles annually. The crown peasants therefore, who pay only three rubles, consider themselves as very fortunate. Estates properly are villages, called *Derewni*, and the property of a nobleman is estimated according to the size of the village and the number of men it contains. But very often one village belongs to several noblemen or proprietors; and then it is said such a person possesses 50, another 100, a third 150, &c. souls, under which appellation males are always understood. The value of slaves varies with that of provisions. In 1747 *Lersch* purchased two men at *Mosco* and two horses for 60 rubles; and this he considered as dear. At present (1797) a healthy strong man is worth 300, 400, and even more rubles; a female from 100 to 150 and 200. In the bank belonging to government for lending money, a slave is taken in pawn for 40 rubles.

Besides the obrok, all boors, whether belonging to the crown or to private persons, must pay also a poll-tax or head-money, which at present (1797) in some places amounts to a ruble for a man\*.

COLONISTS.] It is well known that great encouragement has been given to foreigners to settle in Russia, and that there are in that country at present some colonies pretty numerous. The following table will exhibit a state of them as they were in 1803.

|                 |                                                               | MALES. | FEMALES. |
|-----------------|---------------------------------------------------------------|--------|----------|
| SARATOV.        | Colonists in general                                          | 19,800 | 18,925   |
|                 | Evangelic Brethren, called<br>the Brotherhood of Sa-<br>repta | 253    | 254      |
| NEW RUSSIA.     | Menonists                                                     | 869    | 812      |
|                 | Colonists of Josephthal                                       | 195    | 180      |
|                 | of Yamburgi                                                   | 108    | 131      |
|                 | Swedish                                                       | 78     | 79       |
|                 | Dantzickers                                                   | 65     | 61       |
|                 | Swabians                                                      | 46     | 44       |
|                 | Bulgarians and Greeks                                         | 396    | 370      |
| LESSER RUSSIA.  | Colonists                                                     | 639    | 588      |
|                 | Menonists                                                     | 99     | 103      |
| VORONISH.       |                                                               | 211    | 173      |
| LIVONIA.        |                                                               | 265    | 301      |
| ST. PETERSBURG. | Srednerogatfski                                               | 105    | 100      |
|                 | Ishori                                                        | 126    | 117      |
|                 | Novo-Saratof                                                  | 276    | 267      |
|                 | Yamburgi                                                      | 98     | 70       |
|                 | Total                                                         | 23,629 | 22,575   |

Hence it appears that in 1803 there were established in different parts of Russia 46,204 colonists of both sexes. It appears also from authentic documents, that government had expended in supporting the colonists

\* *Russland's Handel landwirthschaftliche Kultur und Produkte* von W. C. Friebe. Petersburg, 3 vols. 1796, &c.

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the sum of 6,008,948 dollars, of which at that time it had received back only 1,957,490 dollars.

It appears, farther, that in 1803 the following number of colonists were established in Russia :

|                                      | MALES.            | FEMALES. |
|--------------------------------------|-------------------|----------|
| Bulgarians                           | 213               | 216      |
| Elbing and Maurunburg Meno-<br>nists | 534               | 521      |
| Germans                              | 628               | 529      |
| Swiss                                | 240 of both sexes |          |
| Swiss at Grodno                      | 47                | 33       |
| Prussians                            | 14                | 12       |

COLONIES, &c.] Russia being a state new in maritime affairs, cannot boast of any colonies, nor can this name be applied to a small establishment or two in the eastern parts of Siberia. But on the Russian armies a great part of the fate of Europe and Asia must depend ; and the subject of course deserves particular attention. Mr. Tooke estimates the whole amount of the Russian troops at 600,000; of which 500,000 may be esteemed effective.

NAVY.] The Russian navy consists of several detached fleets, employed in the remote seas on which the empire borders at different extremities. The chief fleet is of course that of the Baltic, which consists of about thirty-six ships of the line. That in the Euxine, or Black Sea, at the harbours of Sevastopol and Kherfon, was computed at twelve ships of the line, but not of a high rate, as the Euxine affords no great depth of water ; but there are many frigates, galleys, chebecks, and gun-boats. The fleet of galleys in the Baltic, in 1789, was estimated at 110.

REVENUES.] The revenues of Russia are supposed to amount to about 50,000,000 of rubles; which, valuing the ruble at four shillings, will be equal to 10,000,000l. sterling. The national debt is supposed to amount to little or nothing.

POLITICAL IMPORTANCE, &c.] With all these advantages it is no wonder that the political importance and relations of Russia are so preponderant in Europe and Asia. In Europe her recent acquisitions have contributed to render her more and more formidable. Poland has been devoured ; Denmark and Sweden may be considered as subject-allies ; and if the whole force of Russia were bent against either Austria or Prussia, it is hardly to be conceived that the shock could be withstood. It would certainly be for the interest of Europe that the Russian force should be diverted towards Asia, that by extending her dominions in that quarter her strength may still be more dispersed, when probably a division of the empire would commence, to the lasting advantage of the other continental powers.

FEMALES.

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## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.  
Cities and Towns.—Edifices.—Roads.—Inland Navigation.—Manufac-  
tures and Commerce.*

**MANNERS AND CUSTOMS.]** As the Russian Empire comprises so many distinct races of men, the manners of course must be very various. But in the European division, to which this brief account is restricted, the grand distinctions are, a few Laplanders on the east of the mountains of Olonetz, which divide Russia from Sweden; the Fins of the White sea, and the Baltic; the grand Slavonic mass in the centre, including the Cozacks of the south, who are also Slavons; and a few Tatars in Taurida, a beautiful region, which forms the south-east extremity of Europe. The Laplanders are well known to be a diminutive race, who would be amiable from the pastoral simplicity of their manners, were not their persons ugly and dirty. The Fins are also rather short in stature, with flat faces, deep cheeks, dark grey eyes, a thin beard, tawny hair, and a fallow complexion; but the southern Fins, though they retain the national features, are of superior appearance. There is a small district in the northern extremity of Scandinavia, idly called Finmark; but the chief region of the Fins is around the gulph of Finland, and thence on the south of the White sea, where was, in ancient times, the celebrated region of *Parmia*, by the Scandinavian writers called *Biarmia*, which some suppose extended from the White sea to the mountains of Ural. The Fins used to excel in fishing, and the chase; but they are now much blended with the Slavons, and have generally adopted their manners and customs.

The Slavonic Russians, who constitute the chief mass and soul of this empire, are generally middle sized and vigorous: the tallness and grace of the Polish Slavons seem to arise from superior climate and soil. The general physiognomy consists of a small mouth, thin lips, white teeth, small eyes, a low forehead, the nose commonly small, and turned upwards, beard very bushy, hair generally reddish\*. The expression of the countenance is gravity, with good nature, or sagacity; the gait and gestures lively and impassioned. The Russian is extremely patient of hunger and thirst; and his cure for all diseases is the warm bath, or rather vapour bath, in which the heat is above 100° of Fahrenheit's thermometer. Dr. Guthrie has shewn that the Russians retain many manners and customs derived from their Pagan ancestors, and has given some curious specimens of their songs and music, which seem to be very pleasing. He has also compared their dances with those of the Greeks; and finds in one of them a considerable resemblance of the wanton Ionic, while another resembles the Pyrrhic. He observes that the country girls dress in the *saraphan*, resembling the ancient *stola*, and bind up their hair with the *lenta*, a ribbon like the ancient *vitta*. They tinge their cheeks with the juice of the *echium italicum*. When a marriage is proposed, the lover, accompanied by a friend, goes to the house of the

\* Tooko ii. 233.

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\* Cox, Tr. in Pol  
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bride, and says to her mother, "shew us your merchandize, we have got "money," an expression which is thought to refer to the ancient custom of buying a wife. The Russians shew great attention to their nurses, and are so hospitable that they offer to every stranger the *Kbleb da sol*, or bread and salt, the symbol of food, lodging, and protection. At a repast, some salt fish, or ham, and a glass of brandy, are presented in the first place; and after dinner, cakes made with honey are usually served; the common drink is kvass, an acid, thin, malt liquor; the houses are ornamented with stoves, and among the rich, by stoves conducted into every room, which is at the same time guarded with double windows. In several instances the Russians form a curious junction of European and Asiatic manners; many of their ceremonies partake of Asiatic splendour: the great are fond of dwarfs; and some opulent ladies maintain female tellers of tales, whose occupation is to lull their mistresses asleep, by stories resembling those of the Arabian Nights.

LANGUAGE.] The Russian language is extremely difficult to pronounce, and not less difficult to acquire, as it abounds with extraordinary sounds, and anomalies of every kind. The characters amount to no less than thirty-six; and the common sounds are sometimes expressed in the Greek characters, sometimes in characters quite unlike those of any other language. Among other singularities there is one letter to express the *sch*, and another the *sch*, the latter a sound hardly pronounceable by any human mouth.

LITERATURE.] The Russian literature succeeded, as usual, the conversion of the empire to Christianity. As there is no inducement for strangers to learn the language, for the purpose of perusing works of genius, it is unnecessary to enlarge upon it in a work of this general nature. The elder authors are either writers of annals, or compilers of martyrologies, and lives of saints. Nestor, the earliest historian, also set an example of the latter kind. In recent times the best authors resident in Russia, such as Pallas, and many others have had recourse to the German language; and little can be expected from the native literature, till the language shall have been reduced to the more precise alphabet, and polished form of other European dialects.

EDUCATION.] Education is little known or diffused in Russia, though the court have instituted academies for the instruction of officers and artists.

UNIVERSITIES.] The university of Petersburg, founded by the late Empress Catherine II., is a noble instance of munificence, and it is hoped will escape the fate of the colleges, founded at Moscow, by Peter the Great, which do not seem to have met with the deserved success.

CITIES AND TOWNS.] In considering the chief cities and towns of Russia, Moscow, the ancient capital, attracts the first attention. This city dates from the year 1300, and is of very considerable extent in population, though injured by a pestilence in 1771. Prior to this mortality the houses in Moscow were computed at 12,538, and the population at not less than 200,000\*. Moscow is built in the Asiatic manner, in which cities cover a vast space of ground. Petersburg, the imperial residence, is said to contain 170,000 inhabitants; and is the well known, but surprising erection of the last century. It stands in a marshy situation on the river Neva, the houses being chiefly of wood, though there

\* Cox, Tr. in Poland, i. 351. 8vo. estimates, from good evidence, the population at 230,000.

be some of brick, ornamented with white stucco. The stone buildings are few; and Petersburg is more distinguished by its fame, than by its appearance or opulence. The noblest public works are the quays, built of perpetual granite.

Cronstadt, in the government of Petersburg, and Kollonna, in that of Moscow, are supposed each to contain about 60,000 inhabitants. Chersien, in the government of Ecatharinslav, and Cassa, in Taurida, are said each to contain 20,000; while 30,000 are ascribed to Tula, and 27,000 to Riga, a city of considerable trade and consequence. In general the Russian towns are built of wood, and present few remarkable edifices. A cathedral or two, and the royal palaces and fortresses, may deserve a description better adapted to a book of travels than to a work of this nature.

**INLAND NAVIGATION.]** The inland navigation of Russia deserves more attention. Among other laudable improvements, Peter the Great formed the design of establishing an intercourse by water between Petersburg and Persia, by the Caspian sea, the Volga, the Melta, and the lake of Novgorod, &c. but this scheme failed by the ignorance of the engineers. During the long reign of the late empress many canals were accomplished, or at least received such improvements that the chief honour must be ascribed to her administration. The celebrated canal of Vishnei Voloshok was in some shape completed by Peter, so as to form a communication between Astracan and Petersburg, the course being chiefly afforded by rivers, and it was only necessary to unite the Tvertza running towards the Caspian, with the Shlina, which communicates with the Baltic. The navigation is performed according to the season of the year, in from a fortnight to a month, and it is supposed that near 4000 vessels pass annually\*.

The canal of Ladoga, so called, not because it enters that lake, but as winding along its margin, extends from the river Volkof to the Neva, a space of  $67\frac{1}{2}$  miles, and communicates with the former canal. By these two important canals constant intercourse is maintained between the northern and southern extremities of the empire. Another canal leads from Moscow to the river Don, forming a communication with the Euxine; and the canal of Cronstadt forms a fourth. Peter the Great also designed to have united the Don with the Volga, and thus have opened an intercourse between the Caspian and Euxine seas, and the Baltic: and the whole empire abounds so much with rivers that many advantageous canals remain to be opened.

**MANUFACTURES AND COMMERCE.]** By these means the inland trade of Russia has attained considerable prosperity; and the value of her exports and imports have been long upon the increase. Several manufactures are conducted with considerable spirit†. That of isinglass, which is a preparation of the sounds, or air bladder of the sturgeon, flourishes on the Volga, the chief seat also of that of kaviar, consisting of the salted roes of large fish. The manufactories of oil and soap are also considerable; and Petersburg exports great quantities of candles, besides tallow, which abounds in an empire so well replenished with pasturage; nor must the breweries and distilleries be forgotten. Saltpetre is an imperial traffic, and some sugar is refined at Petersburg. There are several manufactures of paper, and of tobacco, which grows abundantly in the southern provinces. Linen is manufactured in abundance; the best comes from the government of Archangel. Cotton is little wrought, but the silk manu-

\* Phillips, 20. 29.

† Tooke, iii. 462, &c.

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\* Rufeland, Hande  
enburgh, 3 vols. 1794

factories are numerous: coarse cloths, carpets, and hats, are also made in Russia, and leather has long been a staple commodity. Russia produces vast quantities of wax, which is, however, generally exported unbleached; nor are there wanting fabrics of earthen ware and porcelain. Iron foundries abound; and in the northern government of Olonetz is a grand foundry of cannon.

"The following is a state of the manufactories in Russia in 1803;

|                                                                 | Number in the whole empire. |
|-----------------------------------------------------------------|-----------------------------|
| For gold and silver leaf, gold-lace, wire, &c.                  | 37                          |
| Steel, cast-iron, needles, and other articles of iron and steel | 26                          |
| Brass manufactories                                             | 37                          |
| Clocks and watches                                              | 1                           |
| Porcelain, earthen ware, &c.                                    | 55                          |
| Colours, dye stuffs, &c.                                        | 12                          |
| Glass-houses                                                    | 107                         |
| Linen manufactories                                             | 283                         |
| Cotton do.                                                      | 53                          |
| Printed cottons                                                 | 49                          |
| Cotton cloths                                                   | 88                          |
| Paper                                                           | 62                          |
| Ropes                                                           | 55                          |
| Potash                                                          | 84                          |
| Tobacco                                                         | 6                           |
| Sugar-houses                                                    | 6                           |
| Powder and starch                                               | 12                          |
| Japanned wares                                                  | 1                           |
| Woollen cloth, and other woollen articles                       | 155                         |
| Hats                                                            | 71                          |
| Silk                                                            | 321                         |
| Leather                                                         | 843                         |
| <b>Total</b>                                                    | <b>2364</b>                 |

"Seventeen new manufactories were established in 1803 \*."

The commerce of Russia was known in the middle ages by the connection between the Hanse towns, in the north of Germany and Novgorod, established about 1276. So wide is now this empire that it maintains a commerce of the most remote descriptions, on the Baltic and the White sea, the Euxine and the Caspian, with Persia, and with China. Archangel, though fallen from its ancient consequence by the building of Petersburg, still affords a moderate trade, and exports potash, kaviar, tallow, wax, hides, hemp, &c. with corn, linseed, coarse linens, and other articles. The commerce of Petersburg is much of the same description: that of Riga is very considerable, and to other articles are added, masts from the Dnieper. Russia is supposed to export by the Baltic grain annually to the value of 170,000*l.* and hemp and flax, raw and manufactured, to the amount of a million and a half sterling.

The commerce of the Euxine, or Black sea, is of inferior moment, its chief exports being furs, salt beef, butter, cordage, sail cloth, kaviar,

\* *Rusland, Handel Landwirthschaftliche Kultur und Producte von W. C. Friebe. Petersburg, 3 vols. 1796, &c.*

corn, with iron, linen, and some cotton stuffs. Imports, wine, fruit, coffee, silks, rice, and several Turkish commodities \*.

The Russian harbours in this sea are Astracan, the chief seat of the Caspian commerce, Gurief, and Kisliar. From Astracan are exported many European manufactures; and the chief imports are raw silk, rice, dried fruits, spices, saffron, sulphur, and naphtha. The Hindoo merchants occasionally bring gold, and precious stones. The annual trade is computed at 1,000,000 of rubles, or 200,000*l*. That of the Euxine is not above one-third of this value.

Russia likewise maintains some commerce by land with Prussia. That with Persia is of little moment: the chief imports are silk. There is a considerable trade by land with the Kirguses, who send horses, cattle, and sheep, in return for woollen-cloths, iron, and European articles. That with China is nearly on a par; each country transmitting to the amount of about 2,000,000 of rubles. (400,000*l*.) Russia exchanges her precious Siberian furs for tea, silk, and porcelain.

The internal commerce of Russia is very considerable; and Siberia is said to afford in gold, silver, copper, iron, salt, gems, &c. to the amount of 12,000,000 of rubles, (2,400,000*l*.), that between the southern and northern provinces is also of great extent and value. The coin current in the empire is supposed to amount to about 30,000,000*l*. sterling, the paper money to about 20,000,000*l*. The Siberian gold and silver supply an important addition to the national currency.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.*—*Face of the Country.*—*Soil and Agriculture.*—*Rivers.*  
—*Lakes.*—*Mountains.*—*Forests.*—*Botany.*—*Zoology.*—*Mineralogy.*—*Mineral Waters.*—*Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE climate of Russia in Europe, as may be expected in such a diversity of latitudes, presents almost every variety from that of Lapland, to that of Italy: for the newly acquired province of Taurida may be compared with Italy in climate and soil. But winter maintains the chief sway at Petersburg, the capital, and the Neva is annually frozen from November to March or April. The climate around the frozen ocean, and the last European isle upon the N. E. that of Novaya Zemlia, or the New Land, is of noted severity, the northern side being encompassed with mountains of ice, and the sun not visible from the middle of October till February; while it never sets during June and July. Taurida presents, on the contrary, all the luxuriance of the southern year, while the middle regions are blest with the mild seasons of Germany and England.

**FACE OF THE COUNTRY.]** In so wide an empire, the face of the country must also be extremely various; but the chief feature of European Russia consists in plains of a prodigious extent, rivalling in that respect the vast deserts of Asia and Africa. In the south are some extensive *steppes*, or dry and elevated plains, such as that above the sea of Azof, in

\* Tooke, iii. 572.

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**SOIL AND AGRICULTURE.]** The soil is generally fertile from the ch  
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\* Tooke, i.



length about 400 English miles. The numerous and majestic rivers also constitute a distinguishing feature of this empire.

**SOIL AND AGRICULTURE.]** The soil is of course, also extremely diversified, from the chilling marshes which border the White and Frozen seas, to the rich and fertile plains on the Volga. The most fertile is that between the Don and the Volga, from Voronetz to Simbirsk, consisting of a black mould, strongly impregnated with salt-petre; that is a soil formed from successive layers of vegetable remains\*. In Livonia and Esthonia the medial returns of harvest are eight or ten fold; and the latter is generally the produce of the rich plains near the Don, where the fields are never manured, but on the contrary are apt to swell the corn into too much luxuriance. Pasturage is so abundant that the meadows are little regarded, and the artificial production of grasses is scarcely known. Some of the meadows are watered, and produce large crops of hay, the dry pastures yield a short, but nutritious produce, and in a few of the steppes the grass will attain the height of a man, and is seldom mown.

Agriculture is hardly known in the northern parts of the governments of Olonetz, and Archangel; but in the central parts of the empire has been pursued from time immemorial.

In general, however, agriculture is treated with great negligence, yet the harvests are abundant. In the north rye is most generally cultivated; but in the middle and the southern regions wheat; in the government of Ekatarinoflav the Arnautan wheat is beautiful, the flour yellowish, the return commonly fifteen fold; nor is Turkish wheat, or maize, unknown in Taurida. Barley is a general produce, and is converted into meal, as well as oats, of which a kind of porridge is composed. Millet is also widely diffused. Rice succeeds well in the vicinity of Kislear. Hemp and flax form great objects of agriculture. Tobacco has been produced since the year 1763, chiefly from Turkish and Persian seed. The olive has been tried in vain at Astracan, but prospers in the southern mountains of Taurida along the Euxine. The government of Moscow produces abundance of excellent asparagus; and sugar-melons abound near the Don and the Volga. Large orchards are seen in the middle and southern parts of Russia, yet quantities of fruit are imported. While apples and pears are found as far north as the 49°, plums and cherries extend to the 55°. What is called the Kirefskoi apple often weighs four pounds, is of an agreeable flavour, and will keep a long time. A transparent sort from China is also cultivated, called the Nalivui, melting and full of juice†. Bees are not known in Siberia, but form an object of great attention in the Uralian forests.

**RIVERS.]** In enumerating the chief rivers of European Russia the first attention is due to the majestic Volga, which forms, through a long space, the boundary between Asia and Europe, belonging properly to the latter continent in which it arises, and from which it derives its supplies, till at Tzaritzin, about 250 miles from its mouth, it turns S. E. into Asia. This sovereign of European rivers derives its sources from several lakes in the mountains of Valday, and government of Tver, between Petersburg and Moscow; and bends its chief course to the S. E.; near its junction with the Kama, an important river fed by many streams from the Uralian chain, it turns towards the S. W. till it arrives at Tzaritzin. Its comparative course may be computed at about 700 miles. This noble river having no cataracts, and few shoals, is navigable

\* Tooke, i. 67.

† Tooke, iii. 340.

even to Twer. The tributary rivers of the Volga are chiefly from the east, the Kama, which rivals the Volga at their junction, rising in the government of Viatka, and running N.W. afterwards due E. and then S. On the west the chief stream which runs into the Volga is the Oka, which rises in the government of Orel.

Next to the Volga, on the west, is the Don, or Tanais, which rises from a lake in the government of Tulan, and falls into the sea of Azof, after a course of about 800 miles.

The Neiper, or ancient Borysthenes, rises in the government of Smolensk, about 150 miles to the south of the source of the Volga, and about 100 to the S. E. of that of the Duna, or Duna, which flows into the Baltic, by Riga; and after a course of about 1000 miles through rich and fertile provinces, falls into the Euxine. The Bog, or Hypanis, a far inferior stream, falls into the Liman, or estuary of the Neiper.

The Niester, or ancient Tyras, now forms the boundary between European Turkey and Russia, deriving its source from the north side of the Carpathian mountains, and falling into the Euxine at Akerman, after a course of about 600 miles.

Several important rivers direct their course towards the Arctic ocean, such as the Cara, which though not a considerable river is yet remarkable, as forming the boundary between Asia and Europe, for the space of about 140 miles, the Uralian chain terminating so far from the sea of Kara-skoi, or Kariskoi.

The river Petshora rises in the Ural mountains, and joins the Frozen ocean, after a course of about 450 miles.

Next, on the west, is the Mezen, which falls into the White sea after a course of about 350 miles.

The Dwina falls into the gulph of Archangel, after a considerable course of about 500 miles. The Onega closes the list of the chief rivers that flow into the Arctic ocean; for those of Olonetz, and of Russian Lapland, are of little consequence.

The Svir joins the lake of Onega with that of Ladoga, which by the Neva, a more important stream, falls into the gulph of Finland. This river, pervading the city of Petersburg, is about 40 miles in length, but of considerable breadth and depth, and subject to violent floods, which have been recently guarded against by deepening the bed, and by erecting strong quays of granite.

The Narva also runs a short course from the Tchudskoi, or Peypus lake, into the Finnish gulph. The Pernof rises some miles to the west of the Peypus lake, and falls into the gulph of Riga.

But the most considerable stream in this quarter is the Duna, whose source has been already mentioned. It has some considerable and dangerous falls; and sometimes greatly injures the city of Riga, at the breaking up of the ice. Its course is about 500 miles. The Nimen now forms a part of the boundary between Russia and Prussia, and is joined by a canal to the river Pripaz, which falls into the Neiper; but the cataracts in the latter river, about 250 miles above its estuary, greatly impede the intercourse that might thus be established with the Euxine.

**LAKES.]** The chief lakes of European Russia are situated in the N. W. division of the empire. There is a considerable lake in Russian Lapland, that of Imandra; to the south of which the government of Olonetz presents many extensive pieces of water, particularly the large lake of Onega, which is about 150 miles in length, by a medial breadth

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of about 30. The islands and shores of the Onega are chiefly calcareous, and contain some valuable marbles. To the west is the Ladoga, about 130 miles in length, by 70 in breadth, being one of the largest lakes in Europe. As it has many shoals, and is liable to sudden and violent tempests, Peter the Great opened a canal along its shore, from the Volk to the Neva. The fishery of this lake seems of little consequence; but the northern shores produce the beautiful Finnish marble, which is much used at Petersburg.

On the S.W. we find the lake of Peypus, about 60 miles in length by 30 in breadth: the northern part of this lake is styled that of Ithud, the south that of Pzcove. From the Peypus, issues the river Narova, or Narva. To the east is the lake Ilmen, on which stands the ancient city of Novgorod. The Peilo, or White lake, is so called from its bottom of white clay.

But the lakes that give rise to the famous Volga must not be omitted. The chief of these is the lake Seliger, in the government of Tver, which, though narrow, extends about thirty miles in length; and a smaller lake, not far to the west, emits another source of that august river.

**MOUNTAINS.]** It has already been mentioned that European Russia is rather a plain country; though some parts of it be greatly elevated, such as that which sends forth the three rivers of Duna, Volga, and Nieper. This region which is passed in travelling from Petersburg to Moscow, is by some called the mountains of Valday, from the town and lake of Valday, situated on the ridge; but by the natives it is styled *Vhiskay Ploshchade*, or elevated ground; and no mountains are here delineated in the common maps. In this quarter the ground is strewn with masses of granite, but the hills are chiefly marl, sand, and clay; and what are called the mountains of Valday seem to be a high table land, surmounted with large sand hills, and interspersed with masses of red and grey granite: near Valday is the highest part of the ridge, which seems to be in a N.E. and S.W. direction. The hills, lakes, and groves, are beautiful; and there is an island with a noble monastery. To the south of Valday the masses of granite become smaller, and more rare: and calcareous petrifications appear, which are followed by the clay near Moscow. Mr. Tooke \* computes the highest point of the Valday at only 200 fathoms above the level of Petersburg, about 1200 feet above the sea: the height is inconsiderable, and gives a striking impression of the gentle and plain level, through which such extensive rivers must pursue their course. The woods on the Valday are chiefly pine, fir, birch, linden, aspen, and alder; the soil in the vale is fertile, mostly clay and marl.

From the Valday towards the S. scarce a mountain occurs, but after passing the steppe of the Nieper, an arid plain with salt lakes, which perhaps indicate the extent of the Euxine at remote periods, we arrive at the mountains of Taurida, which are rather romantic than of remarkable height, being calcareous and alluvial. To the S. of this chain, along the shores of the Euxine, are the beautiful vales, so well described by Pallas, productive of the laurel, the olive, the fig, and the pomegranate, while the arbutus adorns the steepest cliffs with its red bark, and foliage of perpetual green. The caper and the vine also abound in this natural orchard, and the flocks of sheep and goats feeding on the hills, or bounding from the rocks, unite with the simple and

good humoured manners of the Tatar inhabitants, to render the scene truly pastoral.

But the most important chains of mountains in European Russia remain to be described, those of Olonetz in the furthest N. and those of Ural which separate Europe from Asia. The chain of Olonetz runs in a direction almost due N., for the space of  $15^{\circ}$  or about 900 G miles. The most Arctic part is said to consist chiefly of granite, petrosilex, and lime-stone; and is not of great height, but retains perpetual snow from the altitude of the climate. More to the S. branches stretch on the E. towards the gulph of Kandalak: the granite is intermixed with large sheets of talc, and patches of trap are found, particularly near the gold mines of Voytz, on the western side of the river Vyg. Various other ores occur in this region, and veins of copper pyrites appear in the trap.

In the centre, between the mountains of Olonetz and those of Ural, there seems to be a considerable chain extending from the E. of Mezen to the Canin Nos, a bold promontory which rushes into the Frozen ocean; but this chain appears to have escaped the searches of curiosity or avarice, by the perpetual snows with which it is enveloped. The immense Uralian chain extends from about the 50th to near the 67th degree of N. latitude, or about 1000 G. miles in length, and has by the Russians been called *Semenoi Poias*, or the girdle of the world\*, an extravagant appellation, when we consider that the chain of the Andes extends near 5000 miles. Pauda, one of the highest mountains of the Uralian chain, is reported by Gmelin to be about 4512 feet above the level of the sea, an inconsiderable height when compared with Mont Blanc or Mont Rosa. The central part of this chain abounds in metals, from Orenburg on the south to the neighbourhood of Perm, where, on the Asiatic side are, Venchoutury on the N., Ekatarinenburg on the S., places remarkable for opulent mines. The highest ridges are chiefly granite, gneiss, and micaceous schistus, while the exterior hills of the chain on the W. are, as usual, calcareous. Serpentine, jasper, and trap, are also found, with argillaceous schistus, and other varieties, to be expected in so long a chain.

**FORESTS.]** European Russia is so abundant in forests that it would be vain to attempt to enumerate them. There are prodigious forests between Petersburg and Moscow, and others between Vladimir and Arzamas. Further to the S. there seems to have been a forest of still greater extent, probably the Riphæan forest of antiquity in the direction of the rich black soil so remarkable for its fertility†.

**BOTANY.]** When we consider the vast extent of territory comprehended under the European sovereignty of Russia, from the frozen shore of Archangel to the delicious climate of the Crimea, and that the whole of this great empire has scarcely produced a single naturalist of any eminence, all that is known of its vegetables, animals, and minerals, being collected for the most part within the last forty years by a few foreigners, under the munificent patronage of Catherine II., it will be evident that the rudiments alone of the Russian flora can as yet be extant. The provinces bordering upon the Baltic, and the newly acquired go-

\* Pennant, A. Zool. 156.

† Mr. Coxe, Travels in Poland, &c. vol. i. 329, 341, describes the vast forest of Volkonski, as beginning near Viasmar, and continuing to the gates of Moscow, as he travelled through it without interruption for 150 miles. He says that the Volga, Duna, and Dnieper, arise in this immense forest, which consists of oaks, beech, mountain-ash, poplar, pines, and firs, mingled together in endless variety.

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vernment of Taurida, have been examined with some attention; and a few striking features of the botany of the interior of the country have been described by travellers; but many years of patient research must elapse before the natural history of Russia is advanced to an equal degree of accuracy with that of the western parts of Europe.

The Russian provinces N. of the Baltic, contain the same plants as those of Swedish and Norwegian Lapland, which will be hereafter described. Such as extend between the 50th and 60th deg. lat. abound principally in the common vegetables of the N. of France and Germany, some of which, however, are wanting, on account of the great severity of the Russian winters, from their proximity to the vast plains of Tataria, and the forests of Siberia. The trees of most use, and in greatest abundance are, the fir; the Scotch pine; the yew-leaved fir; and the larch: all of which mingled together, form the vast impenetrable forests, whence the rest of Europe is principally supplied with masts, deals, pitch, and tar. The other forest trees are, the elm, the lime, of the inner bark of which the Russian mats are made, and from whose blossoms the immense swarms of wild bees collect the chief part of their honey; the birch, the alder, the aspen, the greater maple, and the sycamore; of the shrubs and humbler plants, those of most importance are the cloud-berry, the cranberry, the bear-berry, the stone bramble; the fruit of all which, for want of better, is highly esteemed, and is either eaten fresh, or is preserved in snow during the winter. Quitting the pine forests of the N. and middle of Russia, if we turn our attention to the few vegetable productions that have as yet been noticed amidst the myriads that adorn and enrich the broad vales of the Don and the Dneiper, that glow upon the warm shores of the Black sea, or luxuriate in the delicious recesses of Taurida, we shall see what a rich harvest is reserved for future naturalists, and with what ease the inhabitants, when once become civilized, may avail themselves of the uncommon bounties of their soil. Here rises in stately majesty for future navies the oak, both the common kind and the species with prickly cups, the black and the white poplars of unusual size skirt along the margins of the streams, the ash, the horn-beam, the nettle tree, occupy the upland pastures, and the elegant beech crowns the summits of the lime stone ridges. Of the fruit-bearing shrubs and trees, besides the gooseberry, the red, the white, and the black currant, which are dispersed in abundance through the woods, there are the almond and peach; the apricot and crab-cherry; the medlar; the walnut; the Tatarian, the black and white mulberry; the olive; the Chio-turpentine tree; the hazle nut; the fig; the vine and the pomegranate.

**ZOOLOGY.]** The zoology of Russia is vast and various, and only a very slight sketch can here be attempted. The more peculiar animals are the white bear of Novaya Zemlia, or the New Land, and the soussik of the S. In the more northern parts are found the wolf, the lynx, the elk; nor is the camel unknown in the lower latitudes. The animals in the centre seem common to the rest of Europe. Among the more useful animals the horse has met with deserved attention, and the breed in many parts of the empire is large, strong, and beautiful.

Even the country near Archangel is remarkable for excellent pasturage and fine cattle, which may be said in general to abound in the empire. The sheep in the northern provinces are of a middle size, short tailed, and the wool coarse; nor is proper attention paid towards improving the breed. Those in the S. are long tailed, and yield a superior wool; but the



the best is from the ancient kingdom of Kazan, and other regions in the east of European Russia.

In Taurida it is said that common Tatars may possess about 1000 sheep, while an opulent flock is computed at 50,000; those of the whole peninsula were supposed to amount to 7,000,000: nor is the reindeer unknown in the furthest N.; so that the empire may be said to extend from the latitude of the reindeer to that of the camel.

**MINERALOGY.]** The chief mines belonging to Russia are in the Asiatic part of the empire, but a few are situated in the European, in the mountains of Olonetz; and there was formerly a gold mine in that region, near the river Vyz. In the reign of Ivan Bahlowitz, the English in 1569 obtained the privilege of working mines of iron, on condition that they should teach the Russians their metallurgy. During the reign of Alexis, the first regular mines were established in Russia, about 60 miles from Moscow, and they are still continued; but Peter the Great was the founder of the Russian mineralogy, by the institution of the college of mines in 1719; and copper and iron were successfully wrought in the territory of Perm. About 1730 the rich mines began to be discovered in the Asiatic part of the empire, the description of which will come hereafter. In 1739 gold was first observed in the chain of Olonetz, as already mentioned; and the mines of Voytzer near the Vyg were opened, but with little success.

"The newly discovered gold mine in the Ekatherinburg circle of the Uralian mountains affords the best hopes. Of 60,000 poods of ore which had been dug up to the month of October 1804, 12,000 had been smelted, and produced about 13 pounds of pure gold. A peasant who discovered the mine obtained a pension of 200 rubles\*.

"In European Russia the iron mines are of the most importance, and the metal is well known in our manufactories. The chief iron mines are at Dougna near Smolensk."

**MINERAL WATERS.]** European Russia being a plain country, can boast of few mineral waters; the most celebrated is near Sarepta on the Volga, discovered in 1775. The springs are here numerous and copious, and strongly impregnated with iron. In the district of Perekop, and on the isle of Taman, belonging to the government of Taurida, there are springs of naphtha†.

**NATURAL CURIOSITIES.]** The natural curiosities of Russia in Europe have scarcely been enumerated, except those which indicate the severity of winter in so northern a clime. Not to mention the rocks of ice, of many miles in extent and surprising height, which navigate the frozen ocean, adorned like cathedrals with pinnacles, which reflect a thousand colours in the sun, or aurora borealis; it is well known that the Empress Anne built a palace of ice, on the bank of the Neva, in 1740, which was 53 feet in length, and when illuminated had a surprising effect.

The grotto of Kurgur, on the western side of the Uralian mountains has been described with a plan by Gmelin‡. It is of great extent, and contains even subterranean lakes and meadows.

### RUSSIAN ISLES.

The small isle of Cronstadt, in the gulph of Finland, was formerly called Retusavi, and is only remarkable for an excellent haven, strongly

\* Hist. Gen. des Voy.

† Tschu, l. 288.

‡ Friese, ubi supra.

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fortified, the chief station of the Russian fleet. In the Baltic, Russia also possesses the islands of Oesel and Dago, which are of a considerable size, but full of rocks; the marble of the first island is however beautiful. Both isles are chiefly peopled by Estonians.

There are several isles near the shore of Russian Lapland, and in the White sea, but generally barren and uninhabited rocks. Novaya Zemlia, or the New Land, is also uninhabited, and is said to consist of five isles, but the channels between them are always filled with ice\*. Seals, walrus, arctic foxes, white bears, and a few rein deer, constitute the zoology of this desert; and are occasionally hunted by the people of Mezen. To the south of Novaya Zemlia is the sea of Kara (Karakoye) in which the tide flows about two feet nine inches.

The remote and dreary islands of Spitzbergen having been taken possession of by the Russians, they may be here briefly described. This country has by some been styled New Greenland, a name which accurately belongs to the western side of Greenland Proper, in North America, while the eastern side is called Old Greenland, as having been anciently planted by the Danes, though since blocked up by ice. The main land of Spitzbergen extends about 300 miles from the south cape, lat. 76° 30' to Verlegan Hoek, lat. 80° 7'. In an adjacent small isle are said to be basaltic columns, from eighteen to twenty inches in diameter, and mostly hexagonal†. Drift-wood is frequent in these northern latitudes, partly perhaps from the banks of the Ob, and partly from America, there being a strong current from the West Indies to the N.E. Spitzbergen is supposed to have been first discovered by the Dutch navigator Barentz in 1596. The mountains are of granite and grit; the highest not exceeding 4000 feet; for mountains in general decline in height towards the poles. The ice-bergs or glaciers, in the N.E. of Spitzbergen, present a singular appearance, being high cliffs of an emerald colour, impendent over the sea, with cataracts of melted snow, and a back ground of black conic hills streaked with white. The sea itself contains mountains of ice formed by aggregation; a large field forcing a smaller out of the water till it lodge upon the superior surface, and the height is afterwards increased by the snow, till it sometimes rise to 1500 feet. About the first of November the sun sets, and appears no more till the beginning of February; and after the beginning of May it never sets till August. The only shrubby plant is the Lapland willow, which rises to the height of two inches. Here are found polar bears, foxes, and rein deer, with walrus and seals. There are a few kinds of water fowl; but the whale is the lord of these shallow seas. The Russians from Archangel maintain a kind of colony; and that northern region seems indeed to have a natural right to Spitzbergen. To the N.E. of this dreary group are the small isles called the Seven Sisters, the most arctic land yet discovered.

This description shall be terminated by some account of the RUSSIAN AMERICAN COMPANY, whose transactions have hitherto escaped due notice.

The origin of this trading company may be traced back to those hunting and trading expeditions, undertaken by the Russians since the year 1745. The discovery of Kamtschatka, and the possession of it by the Russians in 1696—1706, soon gave rise to two voyages of discovery in the Eastern ocean; the first of which took place in 1745—1730, and the second in 1733—1743. The object of the former was to shew the separation of Asia from America. By means of it a more accurate knowledge was not

\* Pennant, Arc. Zool. clx.

† Ibid. cxviii.

only obtained of the Kurile islands, the existence of which had been known to the Russians since 1711; but the Aleutian Islands were discovered in 1741. This last discovery was attended with the most important consequences to commerce.

After the second Kamtschatka expedition, no further researches were undertaken in these seas at the expence of government, till the year 1768; but the exertions of private individuals, to take advantage of those already made, and to carry them still further, were the more active. The quantity of furs which the navigators sent upon these expeditions brought back with them, induced some merchants, in the year 1745, to undertake a new expedition, the result of which was the discovery of Copper island. After that period, scarcely a year elapsed in which this and the neighbouring islands were not visited by some vessels in order to obtain furs, and particularly sea-otter skins, the sale of which on the Chinese frontiers, opened a new and very important branch of trade. The ships were fitted out at Ochotzk, where there had been a regular establishment for ship-building ever since 1714. As the catching of sea-otters was attended with advantage also to the crown, the governors of Irkutsk, Ochotzk, and Kamtschatka, encouraged the merchants and adventurers of these districts by every means in their power to undertake new expeditions; and the consequence at length was, that, by the year 1750, all the Aleutian islands, and even the eastern ones, were discovered and annexed to the Russian empire. The sea-otter skins became gradually the basis of the Russo-chinese trade; and of course this trade tended in a very great degree to promote the discoveries of the Russians on the north-west coast of America.

The adventurers in the Russian expeditions were at first for the most part Siberian merchants and Cossacs; as their expeditions were carried further and became more expensive, this branch of trade came by degrees into the hands of a few rich merchants at Irkutsk, Tobolsk, and other trading towns in the interior of Russia, among whom were the merchant Schelikof, at Rylsk, and his partners, the two brothers Golikof at Kursk. None of the trading houses was more active than this. Schelikof himself undertook several voyages to the islands and the north-west coast of America; he also published an account of his voyage, by which he rectified the knowledge of these parts, in which he even made new discoveries; and at length formed a considerable establishment on the island of Kadyak; which since that period has been the staple or centre of the whole trade\*. He and his partners first assumed the name of the American Company. In the year 1798 this company united itself with the Irkuski trading company, at the head of which was a merchant named Mylnikof; and it then took the title of the United American Company. Twenty mercantile families had shares in it. In the year 1799 this company obtained a patent from the emperor, by which it was established as a privileged trading company under the title of the Russo-American Company.

The capital of this company was of two kinds: the real capital subscribed by the twenty original partners, and a credit capital.

The former, in the year 1798, consisted of 724,00 rubles, divided into 724 shares of 1000 rubles each. The amount of the latter, for which the company issued bills, can be known only from their books.

\* This respectable member of society died in 1797. The emperor Paul conferred the rank of noble upon his widow, who had accompanied her husband in all his voyages, and also upon her descendants. Resanof, who went out as ambassador to Japan, was son-in-law of Schelikof's widow.

The principal factory is at Irkutsk; besides which there are four subordinate ones, namely, at Ochotsk and in the islands Kadyak, Onalafschka, and Kurilskaya Gryæda.

It is managed by two directors, or four if circumstances should require it. The shares may be transferred by sale, or in any other manner. It was an exclusive privilege for twenty years. The possessions of the company are as follows:

I. The Kurile isles comprehending eighteen large and a number of smaller islands. The eighteenth, or most southern island is called, in the language of the natives, Urup, and by the Russians, who on a bay on the eastern coast of it have the establishment Kurile Rossi (formerly Kurilskaya Gryæda), is called Alexander's island. One of the factories is established in this island. The Japanese islands immediately adjacent to Alexander's island are Atorkue, Kunaschiri, Tschikota and Matmai. The last mentioned large island is separated from the island of Nippon only by a narrow strait.

II. The Aleutian islands comprehend the Aleutian, Andreanofski, and Fox islands as far as the peninsula Aliaska. The company has establishments in almost all these islands; but the most important are in the islands of Atcha and Onalafschka. The second of the four factories already mentioned is also in the latter.

III. The Renaiski group of islands is formed by the large island Kadyak and a number of smaller ones scattered around. Kadyak and Afognak were first occupied and further explored by Schelikof between 1783 and 1787. Kadyak is at present the most important possession of the company. In this island there are several establishments, the largest of which is Fort St. Paul, the seat of the third factory, and of the governor or chief agent of the company. The harbour of St. Paul is dangerous for ships of a certain size. The best harbours are at the fort of the Three Holy Fathers, named after one of the three ships with which Schelikof performed his first voyage south-west from St. Paul; and Kukak, a small island, a little distance to the east of the above fort.

IV. The possessions of the company on the continent of America, which extend along the north-west coast from latitude  $55^{\circ}$  north, to beyond Bering's strait. On that immense range of coast which stretches north from the peninsula Aliaska, and on the peninsula itself the company have formed no establishments; but they are visited by its ships: and the large Russian maps exhibit between latitude  $60^{\circ}$  and  $67^{\circ}$  52 settlements of the natives, which for the most part lie on the sea coast, but sometimes at a considerable distance from it, on rivers and inlets of the sea that penetrate a good way into the country.

The coast of the continent, lying east from the peninsula Aliaska, was first taken possession of for the Russian empire in the years 1788 and 1789, by Schelikof, or rather by a Greek, named Dalarsf, who was then chief factor of his company. This coast contains two large bays, the Renaiski, formerly called by the English Cook's River, but at present after Vancouver, Cooke's Inlet, and the Tschugazki, called by the English Prince William's Sound. The Russian appellations are borrowed from the names of the tribes who inhabit the districts in the neighbourhood of these bays. Both these inlets higher up are separated only by a narrow tongue of land, which the Russians sometimes cross, carrying with them their small vessels.

On the Renaiski bay or sound (Cook's River or Inlet) the company has several establishments; also on the bay or sound Tschugazki (Prince William's Sound), and on the coast below the bay Tschugazski.

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The most southern establishment is in the Bay Sitka, called by the natives Tschinkitane, by the Spaniards Baye de Guadeloupe, and by the English Norfolk Sound. In this bay lies the island of Sitka, which was taken possession of by Baranof, the director of the company in 1799; and on which he constructed the fort of the Archangel Michael. This island is now called by the Russians Baranof's Island. The hill on it, called by Cook Mount Edgecumbe, was seen in the year 1742 by Tschirikof, and called the Hill of Lazarus.

Besides these four factories at Ochotzk, Kadyak, Onalafchka, and Kurilo-Rossy, the company have four more in Kamtschatka, namely at the harbour of St. Peter and St. Paul, at Bolscherezk, Nishney-Kamtschatka and Tigilsk.

The number of all the Russians settled at present (1803) on the coast of America is estimated at 700.

The company have established at St. Paul, in the island of Kadyak, a school and library, which already contains more than a thousand volumes in history, geography, and also nautical books with charts. A considerable addition was sent out with Admiral Knunestern, who went to Japan. The company have also undertaken to propagate the Christian religion in these distant parts; and to open new sources for trade by sea with China and Japan; also to introduce among the natives agriculture and the breeding of cattle.

It appears by a statement published in 1805 that on making up the accounts to the year 1804, it was found that the clear profit for the years 1802 and 1803, on each share, was about 156 rubles\*.

## AUSTRIAN DOMINIONS.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names. — Extent. — Divisions. — Boundaries. — Original Population. — Progressive Geography. — Present Boundaries. — Historical Epoch and Antiquities.*

THE dominions subject to the house of Austria embrace many ancient kingdoms and states, which, for the sake of perspicuity, are here brought under one point of view; it having been urged as a reproach to modern geography, that by the obstinate retention of antiquated divisions, and the confused minuteness of separate descriptions, it has not made an uniform progress with modern history, and politics, which it ought to illustrate. Hence, to use the present instance, many are led to imagine that the power of the house of Austria is chiefly founded on its bearing the imperial title, whereas, if reduced to the regal style of Hungary, its hereditary domains entitle it to rank among the chief European powers, being of wide extent and great importance, and boasting a popu-

\* *Russlands Handel landwirthschaftliche Kultur und Producte von W. C. Friebe. Petersburg, 1797, &c.*

lation of not less than 20,000,000, more concentrated than the diffuse population of Russia, and perhaps the next power to France, not in arms only, but on the broad and deep-rooted basis of compact numbers of inhabitants.

In describing a sovereignty, thus composed of many ancient states, it may seem proper to pay the first and chief attention to that part which gradually spread its domination over the rest. Or in other words, that which was the earliest important inheritance of the ruling family. The remaining provinces will of course be considered in proportion to their real and lasting importance; while the more minute districts may be abandoned to the sedulous care and microscopic labour of the topographer. On this plan the provinces that will here require particular observation are the archduchy of Austria; the kingdoms of Hungary, and Bohemia; the grand-duchy of Transylvania, which, with the Buckovina, may be regarded as belonging to Hungary; the dominion towards the Adriatic, with the acquisitions of Venice and Dalmatia; and lastly, that part of Poland which has fallen under the Austrian sceptre.

NAMES.] The archduchy of Austria may be considered as belonging, in part, to ancient Pannonia, the Vindobona of the Romans being the modern Vienna. But that half of Austria, which lies north of the Danube, was occupied by the Quadi, a barbaric nation, who anciently infested the adjoining provinces of Pannonia and Noricum; for the western part of Austria on the S. of the Danube falls under the latter ancient appellation. The German name and division of Osterich\*, or the eastern kingdom, softened into Austria by the Italian and French enunciation, arose after Charlemagne had established the western empire, being a remnant of the sovereignty of what was called Eastern France, established by that conqueror. It was also styled *Marchia Orientalis*, the eastern march, or boundary: and, after the failure of the Francic line, became a marquisate, feudatory to the dukes of Bavaria, till the emperor Frederic Barbarossa, in 1156, constituted it a duchy, held immediately of the empire†. Hungary, a part of which belonged to ancient Dacia, derives its modern appellation from the Ugurs, a nation now known to have been of Finnish origin, who, after spreading devallation through a great part of Germany, fixed their residence here in the tenth century. In the time of Charlemagne it was possessed by the Avars, a Slavonic people‡. The Hungarians style themselves Magiar; and their language approaches to the Finnic dialect. Bohemia, or the habitation of the Boii, was a central province of Barbaric Germany, afterwards seized by a Slavonic tribe, whose chiefs were originally styled dukes of Bohemia. Transylvania and the Buckovina, are parts of the province of Dacia, founded by Trajan. The former is by the Hungarians called Erdeli; by the Germans Sieben-burgen, or the Seven Towns, from a colony there established; the more common name seems derived from the woody passes of the Carpathian mountains, and was imposed by the monkish writers. Venice, as is well known, derives its appellation from the ancient Veneti of the opposite shore. The origin of the other names becomes difficult, in exact proportion to their unimportance; and is more fit for the investigation of the antiquary than for the present design.

EXTENT.] From the frontiers of Switzerland, to the utmost limits of

\* Several of the German names of Austrian provinces differ considerably from our appellations: Carinthia is *Carnten*; Carniola, *Krain*; Stiria, *Steyermark*; Croatia, *Cra-baten*; Bohemia, *Bohmen*; Moravia, *Mahren*. Gallitz, or Galitzia, is wrongly styled Gallicia.

† D'Auville, *Etats formés en Europe*, p. 51.

‡ Gibbon, x. 204.



Transylvania, the length of the Austrian dominions may be about 760 British miles; the breadth about 520, from the river Bug, which forms a boundary between Austria and Prussian Poland, to the Save, which divides the Austrian from the Turkish sovereignty. The acquisition of Venetian Dalmatia may probably soon be followed by the junction of those Turkish provinces, which divide that province from the Austrian domain. The square contents may be about 184,000 miles. Boetticher estimates the inhabitants at 108 to a square mile; but since he wrote, the Netherlands, a populous region, seem to be withdrawn from the house of Austria.

Towards the east, the Austrian dominions border on those of Russia and Turkey, and to the north on those of Prussia, Upper Saxony, Bavaria, and Swabia. On the utmost west, are Switzerland and the Italian states.

The state of the Austrian dominions has been considerably changed by recent events. Venice has become a part of the kingdom of Italy; and the blindness of Austria towards this venerable republic may be regarded as absolute infatuation. Tyrol has become assigned to the elector, now king, of Bavaria, who also shares with the new king of Wirtemberg the the Austrian possessions in Swabia. Such are the most essential terms of the treaty of Presburg, 26 December 1805. The counties of Salzburg and Berchtolsghaden are incorporated with the empire of Austria. By this remarkable treaty the Austrian emperor,

"Cedes and abandons to his Majesty the king of Bavaria the Margraviate of Burgau and its dependencies; the principality of Eichstadt; the part of the territory of Passau, belonging to the elector of Salzburg, and situated between Bohemia, Austria, the Danube, and the Inn; the country of Tyrol, comprehending therein the principalities of Brixen and Botzen, the seven lordships of the Voralberg, with their detached dependencies; the county of Hohenems, the county of Konigsfegg, Rottenfels, the lordships of Tetnany and Argen, and the town and territory of Lindau.

"To his Majesty the king of Wirtemberg, the five cities of the Danube, to wit, Chingen, Munderkengen, Ruffingen, Menzen, and Salzgaw, with their dependencies, the city of Constance excepted; that part of the Brisgaw which extends in the possession of Wirtemberg, and situated to the east of a line drawn from Schlegelburg to Molbach, and the towns and territories of Willengen and Brentengen. To his most serene highness the elector of Baden, the Brisgaw (with the exception of the branch and separate portions above described), the Ortenlaw and their dependencies, the city of Constance, and the commandery of Meinau \*."

It has been asserted that Austria was to be partly indemnified for these important cessions by the acquisition of Bosnia and Servia from the Turks; but as the French have seized on Cattaro, and the Dalmatian territories of the former republic of Venice, it may be doubted whether her policy would permit the increase of the power of Austria in that quarter.

[ORIGINAL POPULATION.] The original population of these extensive regions is various, but chiefly Gothic and Slavonic. The native ancient Germans, a Gothic race, form the ruling, most industrious, and most important part of the inhabitants. Bohemia and Moravia were originally Slavonic kingdoms; and the people of Poland and Hungary may be generally referred to the same origin. The Venetians, and adjacent Italians,

\* Recent disasters have occasioned yet further cessions; but the power of Austria seems somewhat consolidated by the marriage of Napoleon with the Austrian princess.



may be considered as genuine descendants of the Cisalpine Gauls, and of the Roman colonies established among them. In ancient descent, no genealogy can vie with that of several Venetian families, which can be traced by history and record to the eighth century.

**PROGRESSIVE GEOGRAPHY.**] The progressive geography of the southern part of the Austrian dominions commences at an early period. Yet the Adriatic was not a favourite sea of the Greeks; and the Roman writers throw the first steady light upon these regions. Passing from Cisalpine Gaul, in defiance of the barriers of the Rætian, and Carnic, or Julian Alps, now the mountains of Tyrol, Carinthia, and Carniola, the Roman generals subdued many barbarous tribes; and founded the provinces of Noricum and Pannonia, their most northern acquisitions in this quarter, till Trajan added Dacia. The Rætians were subdued by Drusus, in the reign of Augustus, under whose sway, or rather in the time of his successor Tiberius, Pannonia and Noricum also became provinces of the Roman empire. Concerning those regions, much information may be derived from the luminous page of Tacitus; and, soon after, the geography of Ptolemy opens additional illustrations. The common resources of ancient geography are continued by the Byzantine writers; and, after the age of Charlemagne, by many historians of the west. Since the invention of printing to the present period, the geography of these extensive provinces has been gradually improved, though not with the rapidity which might have been expected, as they unfortunately have not produced many men of acute genius, extensive learning, or exact science; and the best accounts are derived from writers in the N. of Germany, and from foreign travellers.

**HISTORICAL EPOCHS.**] The historical epochs of various kingdoms and states, recently united under one sovereignty, must of course be subdivided into their original distinct portions, beginning in the order above-mentioned, with the first important state, around which, as a nucleus, the others are conglomerated; but proceeding thence to the other provinces, according to their modern extent and importance.

1. The house of Austria, which, by successive fortunate marriages since the fifteenth century, has arisen to such a summit of power, is well known to have sprung from the humble counts of Hapsburg. Those lords possessed a small territory in Switzerland, in the northern corner of the canton of Berne. On a lofty eminence, crowned with beech, stands an ancient tower, the first feat of the house of Austria. In 1273 Rodolph of Hapsburg was called to the Imperial throne, being at this time lord of the greater part of Switzerland, by the extinction of the powerful house of Zaeringen, and that of the counts of Kyburg, whose joint inheritance devolving to Rodolph, became the basis of his power, and that of his successors\*.

2. Another emperor of the house of Austria appeared in Albert, A. D. 1298; from whom the Swiss made their signal revolt in 1307. His son Frederic was obliged to yield the empire to Louis of Bavaria.

3. Albert II. duke of Austria, A. D. 1438, succeeded to three crowns, on the death of his father-in-law the emperor Sigismund; those of Hungary and Bohemia by inheritance, and that of the empire by unanimous election.

4. Maximilian having married the heiress of Burgundy, the Netherlands became subject to the house of Austria in 1477; and his son Philip, in 1496, marrying the heiress of Arragon and Castille, the ample dominions

\* Platta's Swiss, i. 170.

of Spain fell afterwards under the Austrian sceptre. Charles V. inherited all these domains; but, on his resignation, Spain and the Netherlands devolved to his son Philip II.; and Austria, Bohemia, and Hungary, passed to Ferdinand, the brother of Charles V., who was also chosen emperor of Germany.

5. The noted bigotry of the house of Austria was not confined to the Spanish branch; for though Maximilian II., about 1570, had granted liberty of conscience even to the protestants of Austria, yet those of Bohemia, and other parts, were afterwards so much oppressed, that the protestant princes of Germany called in Gustaf Adolf, the celebrated Swedish monarch, to their assistance, who shook the empire to its very foundations. Even France supported the protestants, in the view of weakening the Austrian power; and the war continued till 1648, when the famous treaty of Westphalia was signed, which has served as a basis for other diplomatic transactions.

6. The war with France was often rekindled during the long reign of Leopold I. 1658, to 1705; and in 1683 the Turks were so successful as to lay siege to Vienna.

7. His son, Joseph, I. joined the allies against France, and shared in their success. He married the daughter of John Frederic, duke of Hanover.

8. By the death of the emperor Charles VI. on the 20th October, 1740, without male issue, the house of Austria became extinct. The elector of Bavaria seized the kingdom of Bohemia, and was elected emperor in 1742, but died in 1745.

9. Francis of Lorraine, son of Leopold, duke of Lorraine, having married Maria Theresa, daughter of the emperor Charles VI. succeeded to the Austrian dominions, which continue to be held by his descendants. In 1745 he was elected emperor, and his successors have enjoyed the imperial crown as if hereditary.

10. The reign of the emperor Joseph II. a beneficent, but impetuous prince, whose grand designs of reformation were frustrated by his ignorance of the inveteracy of habits and prejudices, which must ever be considered in a due estimate of human affairs.

11. The obdurate and sanguinary contest with France, the events of which are known to all.

Having thus briefly marked the chief epochs of the Austrian power, the events of the subject kingdoms and states must be as much compressed as possible. The next in importance are those of the kingdom of Hungary.

1. The Roman province of Dacia. The conquest by the Huns; and afterwards by the Avars, and other Slavonic tribes.

2. The conquest by the Ogurs, or the Magiars, who continued under dukes from their first settlement in 884.

3. St. Stephen, king of Hungary, A.D. 1000. The crown is partly elective and partly hereditary; and among the chief historical events are the wars in Dalmatia against the Venetians.

4. Louis I. surnamed the Great, A.D. 1342, subdues a great part of Dalmatia, and carries his arms into Italy. He was succeeded by his daughter Mary, who was styled *King* of Hungary; but dying 1302, the succession became controverted, and at last terminated in the election of Sigismund, marquis of Brandenburg, who had wedded Mary the heiress. In 1411 he was chosen emperor of Germany.

5. Albert of Austria having wedded Elizabeth the heiress of Sigismund, was, with her, crowned king and queen of Hungary, 1438: and

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event which forms the earliest basis of the Austrian claim to the Hungarian monarchy. Upon the death of Albert, Ladislas, king of Poland, is also chosen king of Hungary, but perishes in the battle of Werna, against the Turks. The famous John Hunniades is appointed regent of the kingdom.

6. On the death of another Ladislas, the posthumous son of Albert of Austria, in 1457, the celebrated Mathias Corvinus, son of Hunniades, is proclaimed king of Hungary by the states, assembled in the plain of Rakos, near Pest. In 1485 he seized Vienna, and the other Austrian states, and retained them till his death in 1490. Mathias was the greatest prince who had ever held the Hungarian sceptre; brave, prudent, generous, the friend of arts and letters, and a man of letters himself. He founded a magnificent library at Buda, and furnished it with the best Greek and Latin books, and many valuable manuscripts.

7. After repeated contests, the house of Austria again fills the throne of Hungary, in the person of Ferdinand, 1527, but towards the end of his reign the Turks seized on the greater part of this kingdom. On his being chosen emperor of Germany, Ferdinand retained the crown of Hungary till 1567, when he resigned it to his son Maximilian; and it has since continued a constant appanage of the house of Austria.

The grand-duchy of Transylvania was considered as a part of Hungary till 1540, when, in consequence of a treaty between the Vajvod and Ferdinand of Austria, Transylvania began to be regarded as a distinct state. Stephen Battori having been elected prince of Transylvania in 1571, that family continued to hold this petty sovereignty till 1602, after which it continued subject to several elective princes, of whom the most distinguished was Bethlen Gabor, or Gabriel Betlem, a noble Hungarian and a Calvinist, who conquered a great part of Hungary in 1619, and died in 1629. The last prince of Transylvania was Michael Abassi, the second of that name, who yielded the sovereignty to the emperor in 1694, since which period this country has formed a part of the Austrian dominions.

The historical epochs of the kingdom of Bohemia deserve more attention.

1. In the seventh century, the Slavons, seizing on Bohemia, were ruled by chiefs, or dukes, seemingly hereditary, at least after Borzivoi, who embraced Christianity in the year 854. In the eleventh century Bretislav subdued the little adjacent kingdom of Moravia.

2. Vratislav, duke of Bohemia, is honoured with the regal title by the emperor Henry IV. in 1086; who at the same time invested him with the domains of Lusatia, Moravia, and Silesia. But this dignity was personal, and the constant title of king only dates from Premislav II. in 1199. He and his immediate successors are styled Ottocari, from their zeal in the cause of the emperor Otto.

3. One of the most renowned monarchs was another Premislav Ottocar, who ascended the throne in 1253, seized Austria and Stiria, and other provinces to the south, and carried his arms into Prussia. In 1271 he refused the imperial crown, which was afterwards given to Rodolph count of Hapsburg.

4. The ancient lineage having failed, John, count of Luxembourg, who had married a daughter of Bohemia, became king in 1310, and was slain at the battle of Creci, fighting against the English in 1346. His son and successor, Charles, was also emperor of Germany.

5. In the reign of Wenceslas VI. king of Bohemia, and emperor, John Huss, having read the books of Wickliffe, the English reformer,

introduced his doctrines into Bohemia. He was condemned to the flames in 1415. The Bohemians and Moravians have since become remarkable for various sects of religion, and consequent intestine commotions. The Hussites under Ziska, repeatedly defeated the troops of their king Sigismund, brother of Wencelas, and also emperor of Germany.

6. Albert of Austria, having wedded the daughter of Sigismund, received the crowns of Bohemia and Hungary. But the succession was afterwards controverted and infringed by George Podiebrad, (a Hussite chief, who obtained from the weakness of the emperor Frederic III. of the house of Austria, the crown of Bohemia in 1459,) by Vladislas, son of the Polish monarch, and by Mathias king of Hungary.

7. Louis, son of Vladislas, succeeded his father in the kingdoms of Bohemia and Hungary; but being slain at the battle of Mohatz, 1526, the crown finally passed to the house of Austria.

ANTIQUITIES.] The ancient monuments of the more northern kingdoms and provinces belonging to Austria cannot be expected to be very numerous or important. Vindobona, and the adjacent parts of Noricum and Pannonia, occasionally display Roman remains; but the ruins of the celebrated bridge of Trajan, over the Danube, belong to Turkey in Europe, being situated not far from Widin, in Bulgaria, it is supposed to have consisted of twenty arches, or rather vast piers of stone, originally supporting a wooden fabrick of the length of more than 3,300 English feet. In Hungary, and other parts of the ancient province of Dacia, appear many relics of Roman power, as military roads, ruins, &c. and an elegant historian remarks, "that if we except Bohemia, Moravia, the northern skirts of Austria, and a part of Hungary between the Teyss and the Danube, all the other dominions of the house of Austria were situate within the limits of the Roman empire\*." Hungary, and the other provinces of the Austrian dominions, having been frequently exposed to the ravages of war, many ancient monuments have perished; yet several castles, churches, and monasteries still attest the magnificence of the founders†. The cathedral church of St. Stephen, in Vienna, is a Gothic fabric of singular pomp and minute decoration.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Population.—Colonies.—Army.—Navy.—Revenues.—Political Importance and Relations.*

RELIGION.] THE preponderant religion of the Austrian dominions is the Roman Catholic, but attended with a considerable degree of toleration. Protestants of various sects are found in Bohemia and Moravia; nor are Lutherans unknown at Vienna, though they chiefly abound in Transylvania‡; nay in Hungary it is believed that the protestants are equal in number to the catholics§. Vienna did not become a metropolitan see till the year 1722: the archbishop is a prince of the holy Roman empire.

\* Gibbon, vol. i. p. 22.

‡ Busching, vi. 540.

† Dr. Brown's Trav. part. ii. p. 80.

§ Townson, 181.

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**GOVERNMENT.]** The form of government is an hereditary monarchy, and approaching to absolute power. For though Hungary retains its ancient states, or rather an aristocratical senate, yet the dominions being so various and extensive, and the military force wholly in the hands of the sovereign, no distinct kingdom or state can withstand his will. Even Austria has its states, consisting of four orders, clergy, peers, knights, burgeses; the assembly for Lower Austria being held at Vienna, and that of the upper at Linz \*. But those local constitutions can little avail against the will of a powerful monarch, supported by a numerous army.

**LAWS.]** The laws vary according to the different provinces, almost every state having its peculiar code. The Hungarians in particular have vigorously defended their ancient laws, though in many instances illaudable, the peasantry being in a state of villanage till 1785 †. In 1786 Joseph II. after suppressing villanage in Bohemia and Moravia, extended the like freedom to Hungary: and this decree remains uncanceled, though many of the laws of that well-meaning but injudicious monarch expired with their author. Yet the boasted freedom of Hungary is rather that of a powerful aristocracy, than of the people at large. In general the laws may be regarded as mild and salutary; and the Austrians in particular are a well regulated and contented people, while the Hungarians are often dissatisfied, and retain much of their ancient animosity against the Germans.

**POPULATION.]** The general population of the Austrian dominions is computed at about 22,000,000; that of Hungary, Transylvania, and the Buckovina, being estimated at 7,880,000.

Of the other chief provinces, Bohemia is supposed to hold 2,806,000; and Moravia, 1,256,000. The whole acquisitions in Poland contain 2,797,000; while the archduchy of Austria is computed at 1,820,000 ‡.

**ARMY.]** The army is computed by Boetticher at 365,454 men, in 136 regiments, of which 46 are Germans, and only 11 Hungarian. This numerous army has been greatly diminished in the sanguinary contest with France; and perhaps could not at present equal that of Prussia, computed at 200,000; and far less that of the great military power of Russia, doubling that number.

**NAVY.]** An Austrian ship of the line would be regarded as a novelty on the ocean.

**REVENUE.]** The revenue is computed at more than 10,000,000*l.* sterling, to which Austria contributes about 3,000,000*l.*, and Hungary a little more than a million and a half. This revenue used to exceed the expences; but the public debt now, probably, surpasses 40,000,000*l.* sterling, and the recent wars have occasioned great defalcations.

**POLITICAL IMPORTANCE AND RELATIONS.]** Vast are the political importance and extent of the relations of the Austrian sovereignty. Setting aside the consideration of this influence, as emperor, over the German states, the monarch may be regarded as an equal rival of France, and only inferior to the preponderance of Russia. Since the Austrian dominions and power have been swelled to their modern consequence, a determined rivalry has existed between them and France, which has, with reason, been jealous of the Austrian ambition. England being also the rival of France, it has frequently become an unavoidable policy to maintain this dissension. There are also causes of confirmed jealousy between Austria

\* Busching, vi. 536. last French edition.

† Townson, 102. 107.

‡ Hoeck, *Aperçu Statistique*. Paris, 1801.



and Prussia; and it is doubtful if even an invasion from Russia would compel them to unite in a defensive alliance. The inveterate wars with Turkey, and the radical difference of religion and manners, more impressive from vicinity, have also sown irreconcilable hatred between the Austrians and Turks; and the ambition of Austria eagerly conspires with Russia against European Turkey. Amidst so many enmities, and the necessary jealousy of Russian power, it would be difficult to point out any state on the continent with which Austria could enter into a strict and lasting alliance. The most natural and constant may be that with England, whose maritime power might inflict deep wounds upon any enemy; but against Russia an alliance with Prussia would be indispensable.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** VARIOUS are the manners and customs of the numerous kingdoms and provinces subject to the house of Austria. Vienna, the capital, presents as it were an assemblage of nations, in their various dresses. In Austria Proper the people are much at their ease: and the farmers, and even peasantry, little inferior to those of England. Travellers have remarked the abundance of provisions at Vienna, and the consequent daily luxury of food, accompanied with great variety of wines. The Austrian manners are cold, but civil; the women elegant, but devoid of mental accomplishments. The youth of rank are commonly ignorant, and of course haughty, being entire strangers to the cultivation of mind, and condescension of manners, to be found among the superior ranks of some other countries, a circumstance more striking to the English traveller in particular from the violence of the contrast. An Austrian nobleman, or gentleman is never seen to read, and hence polite literature is almost unknown and uncultivated. In consequence of this ignorance the language remains unpolished; and the Austrian speech is one of the meanest dialects of the German, so that polite people are constrained to use French. The lower orders are, however, little addicted to crimes or vices, and punishments rare: robberies are seldom committed, and murder little known. When capital punishment becomes unavoidable, it is administered with great solemnity, and accompanied with public prayers, an example worthy of universal imitation.

The next people in estimation, and the first in numbers, are the Hungarians. Their manners are now considerably tinged by those of the ruling Germans, but they remain a spirited people, and affect to despise their masters. Their dress is well known to be peculiar, and is copied by our hussars\*. This dress, consisting of a tight vest, mantle, and furred cap, is graceful; and the whiskers add a military ferocity to the appearance.

**LANGUAGE.]** The languages spoken in these aggregated dominions are numerous and discrepant. They belong chiefly to three grand divi-

\* In the Hungarian, *Huszár* implies the twentieth, because twenty peasants are obliged to furnish one horseman to the cavalry. Busch. iii. 36.



sons, the Gothic or German of the ruling nation, the Slavonic of the Poles\*, part of the Hungarians, the Dalmatians, &c. and also the ancient speech used in Bohemia and Moravia; and lastly the Hungarian proper, which has been considered as a branch of the Finnic. The Italian of course prevails in the states of Italy that are subject to Austria; and the Tyrolese, &c. use a mixture of Italian and German. Among people of rank at Vienna the French was formerly prevalent, as already mentioned; but this fashion is perhaps impaired by recent events, and the use of the polished German of Saxony would not only be more appropriate, but might tend to diffuse a national taste and native literature. Rielbeck observes that in Suabia, Bavaria, and Austria, the German is very impure.

**LITERATURE.]** Exclusive of the Italian provinces, the literary history of the Austrian dominions cannot ascend to a remote period. That of Austria Proper, in particular, is little interesting, and even the chronicles and lives of saints are comparatively recent. If the emperor Maximilian, grandfather of Charles V., be the author of an eccentric poem alluding to the events of his own life, and usually ascribed to him, though many assign it to his chaplain, he may be considered as the father of Austrian literature, as well as of Austrian greatness. But the succession of authors is interrupted; and many of those who flourished at Vienna were aliens. In the medical branch, Van Swieten, Storck, and others have acquired deserved celebrity.

Bohemia and Hungary have no ancient claims to literature. Cosmas of Prague, a venerable historian, flourished about the year 1130; and Hungary has a contemporary father of history in the anonymous notary of king Bela †. The encouragement given to writers by the celebrated Mathias Corvinus little stimulated native literature. Nor is there any Hungarian writer particularly celebrated among the modern Latin classics; nor is the native language yet known by any work commanding celebrity. Baron du Born, a native of Transylvania, has written many able works in natural history; but he used the Latin and French languages. An enquiry into the causes which have retarded the progress of letters and philosophy in the Austrian dominions, would be more useful than the bare enumeration of a few names; they would be found to arise partly from the coarseness of the German dialect, and the absence of the Slavonic and Hungarian from the learned languages of Europe; partly from numerous wars of ambition, which sometimes endanger the very existence of the state; in yet greater measure from the military education of the nobility, or rather indeed from their ignorance, for many consummate officers have been men of letters; but above all, this defect must be ascribed to that metaphysical bigotry which perverts their rational powers, and blights every bud of genius and solid knowledge. The books prohibited at Vienna probably exceed in number those of the Index Expurgatorius; and though the government have no doubt a right to watch over those of a political tendency, yet this jealousy needs not be extended to works of mere science, written by heretics.

**EDUCATION.]** The empress Theresa instituted schools for the education of children, but none for the education of teachers. Hence the children are taught metaphysics before they know Latin; and a blind veneration for the monks forms one of the first exertions of nascent reason.

\* Nor is it diffused in Bohemia, which may be regarded as the extreme western limit of the Slavonic tongue; for the people extend to the mouth of the Elbe.

† Katona, Hist. Crit. Hung. Proleg.

Yet the example is highly laudable, and with all its disadvantages may lead to important consequences.

UNIVERSITIES.] The universities, like those in other Catholic countries, little promote the progress of solid knowledge. The sciences taught with the greatest care are precisely those which are of the smallest utility. The university of Vienna has, since the year 1752, been somewhat improved. It was founded in 1237, and that of Prague in 1347; that of Inspruck only dates from 1677, and Gratz from 1585\*. Hungary chiefly boasts of Buda, though the Jesuits instituted academies at Raab and Caschau. A late traveller† informs us that the university of Buda, by the Germans called Offen, possesses an income of about 20,000*l.* sterling, only 4000 of which are applied to pay the salaries of the professors. "Besides the usual chairs, which exist in every university, there are those of natural history, botany, and economy. The collection of instruments for natural philosophy, and the models of machines, are good; and the museum of natural history, which contains the collection of the late professor Piller, besides that of the university, may be ranked among the fine collections of Europe." There is a Calvinist college or university at Debretzin: and the bishop of Erlau has recently established a splendid university at that city‡.

CITIES AND TOWNS.] Vienna, the chief city of the Austrian dominions, lies on the S. or rather W. side of the Danube, in a fertile plain watered by a branch of that river, (beyond which stands the suburb of Leopoldstadt,) and by the little river Wien. The Danube is here very wide, and contains several woody isles: the country towards the N. and E. is level, but on the S. and W. hilly, and variegated with trees. It is founded on the site of the ancient Vindobona; but was of little note till the twelfth century, when it became the residence of the dukes of Austria, and was fortified in the manner of that age. The manufactures are little remarkable, though some inland commerce be transacted on the noble stream of the Danube. The number of inhabitants is computed at 254,000. The suburbs are far more extensive than the city, standing at a considerable distance from the walls. The houses are generally of brick covered with stucco, in a more durable manner than commonly practised in England; the finest sand being chosen, and the lime, after having been slacked, remaining for a twelvemonth, covered with sand and boards, before it be applied to the intended use. The chief edifices are the metropolitan church of St. Stephen, the imperial palace, library, and arsenal, the house of assembly for the states of Lower Austria, the council-house, the university, and some monasteries. The prater, or imperial park, is an island in the Danube well planted with wood; and to the south is the chapel of Herenhartz, which during Lent is much frequented for the sake of amusement, as well as of devotion. Provisions of all kinds abound in Vienna, particularly wild boars, venison, and game; many small birds rejected by us being included among the latter. Livers of geese are esteemed a peculiar delicacy; nor are tortoises, frogs, and snails rejected||. The people delight in the combats of wild beasts, and of bulls. In one of the suburbs is the palace of Belvidere, which formerly belonged to Prince Eugene: and at the dis-

\* Dufresnoy, *Methode Geog.* iii. 271.

† Townson, p. 79.

‡ *Ib.* 298. 295.

|| Rikbeck, himself a German, blames the Austrians, i. 937, for gluttony, and a certain indefinable coarse pride. Yet he highly praises the schools, p. 280. The richest subject by his account was Prince Lichtenstein, who had about 90,000*l.* sterling a year, while Esterhazy only enjoyed 60,000*l.*

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tance of a few miles stands Schonbrun, another imperial palace. Though Vienna be much exposed to the northern and eastern winds, yet the southern hills serve as a fence against the rain, and the traveller rather complains of dust than of moisture. The pleasantness of the environs in general is improved by the happy aspect of the Austrian peasantry.

The honour of the second city in the Austrian dominions must be claimed by Prague, the population being estimated at 80,000. This metropolis of Bohemia stands on both sides of the river Mulda, over which there is a noble bridge of stone, founded in 1357. The fortifications are of small moment; but the houses are of stone, and commonly three stories in height. This city has had the fatality of being exposed to frequent sieges, commonly fortunate to the aggressors. About a sixth part of the population consists of Jews.

Next, though at a great distance, stands Gratz, the capital of Stiria, supposed to hold 35,000 souls. This city stands on the west side of the river Muehr, joined by a bridge to an extensive suburb on the opposite bank. There are regular fortifications, and on a bold rock near the river is placed a strong citadel.

Presburg, the capital of Hungary, only contains about 27,000 inhabitants, its precedence being of modern date, after Buda the ancient capital had been repeatedly taken by the Turks. Presburg is beautifully situated on the Danube, towards the western extremity of Hungary, being only about 35 British miles to the east of Vienna; but the position is still more uncentral than that of Buda. The Danube is here very rapid, and about 250 yards in breadth. About one quarter of the inhabitants are Lutherans, who are so opulent as to pay about one half the taxes. A good theatre, and convenient coffee-houses contribute to the pleasure of the inhabitants. Jews also abound in this city.

Buda, by the Germans called Offen, the ancient metropolis of Hungary, is now reduced to little more than 20,000 inhabitants; but if the city of Pesth be included, which stands on the opposite side of the Danube, over which there is a bridge of boats, the population may be computed at 34,000. The chief public and private buildings are in Pesth, and within the fortress: the royal palace in particular is a large and stately edifice. At Buda there are hot springs; and the people, like those of Vienna, delight in bull fights and exhibitions of wild beasts. In 1784 the seat of the provincial government, and the public offices being restored from Presburgh to Buda, the latter joined with Pesth may still be regarded as the capital of Hungary\*. The mining cities of Schemnitz and Cremnitz do not exceed 8000 inhabitants each†; but Hermanstadt, the capital of Transylvania, is supposed to contain 17,000. It is the chief seat of the Saxon colony, but the air is unhealthy. The Buckovina, annexed to the Austrian territory in 1777, contains no town of consequence.

That part of Poland which was acquired in 1772, and divided into two provinces, called Galitzia and Lodomeria, presents Lemberg, or Leopold of 20,000 inhabitants, and some other considerable towns. Among the Polish acquisitions must also be named Cracow, anciently the capital of that kingdom, and estimated to contain 24,000 people. This city stands on the Vistula and has a castle, but is poorly fortified.

Brunn, in Moravia, is computed at 18,000, and Olmutz, in the same country, at 12,000; and the latter number is also assigned to Troppau,

\* Townson, p. 90.

† Hoesck puts Cremnitz at 4000.

in the Austrian part of Silesia. In the southern provinces, Inspruck and Trent are supposed each to contain 10,000 souls. Trieste, which is reckoned at 18,000, deserves more particular attention, having been for a long time the only sea-port belonging to Austria. It is situated on a gulph of the Adriatic, and rises on an ascent which is crowned by a castle. The shipping is secured by a wall, extending from the Lazaretto to the isle of Zuka; and the harbour was declared free by the emperors Theresa. The neighbourhood produces excellent wines.

[EDIFICES.] Some towns in the Austrian part of Italy, and in Dalmatia, might here deserve notice, were there not uncertainties concerning the duration of their subjection to Austria. The chief public edifices are at Vienna, Buda, and Pesth, to which may now be added Venice; but there are many splendid churches and monasteries in the several regions of the Austrian domination. Many of the Hungarian nobility, who have vast estates, possess castles of corresponding magnificence. Among these the chief are the Palefy, Schaki, Erdoby, Sichy, Forgath, Kohari, Karoly; but above all Esterhazy, whose castle, about a day's journey from Presburgh, is said to rival Versailles in pomp; and seems also to rival that palace in the surrounding desolation, being in a morassy country near the Neusidler lake\*.

[MANUFACTURES AND COMMERCE.] Manufactures do not seem to be cultivated to a great extent in any part of the Austrian dominions. Vienna perhaps equals any of the other cities in manufactures which are chiefly of silk, gold and silver lace, cloths, stuffs, stockings, linen, mirrors, porcelain; with silver plate, and several articles in brass &c. Bohemia is celebrated for beautiful glass and paper. But the commerce of the Austrian dominions chiefly depends upon their native opulence; Austria Proper and the southern provinces producing abundance of horses and cattle, corn, flax, saffron, and various wines, with several metals, particularly quicksilver from the mines of Idria. Bohemia and Moravia are also rich in oxen and sheep, corn, flax, and hemp; in which they are rivalled by the dismembered provinces of Poland. The wide and marshy plains of Hungary often present excellent pasturage for numerous herds of cattle; and the more favoured parts of that country produce corn, rice, the rich wines of Tokay, and tobacco of an exquisite flavour, with great and celebrated mines of various metals and minerals. The Austrian territories in general are so abundant in the various necessaries and luxuries of life, to be found either in the north or south of Europe, that the imports seem to be few and inconsiderable. The chief exports are from the port of Trieste, consisting of quicksilver and other metals, with wines and various native products. Dr. Townson gives a table of the exports of Hungary for one year, from which it appears that they consisted chiefly of cattle, hogs, sheep, flour, wheat, rye, wool and wine, carried to other Austrian provinces; and only about one-seventh part sent to foreign countries.

\* Risbeck, ii. 49. 66.

† Busching, vi. 540.

*Climate and Soil*  
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#### CLIMATE AND SOIL

sometimes enjoy delightful weather. The more northern parts of the empire are less fertile and less healthy. Hungary, and the northern provinces, are less fertile and less healthy, but the blasts of winter remedy these evils and vigour.

FACE OF THE COUNTRY. The subject to Austria is a tract in this respect very different from the Rhetian Alps, and the north of Carinthia, and on ascending the heights; and the mountains, which are to the north and east, by another elevation in the fourth the plains to be found.

This ample country is particularly the district which is the dominions may be interesting; and of Europe united.

SOIL AND AGRICULTURE. The fertile and productive land has admitted many pastures, wide forests and meadows, those very fertile. The state of agriculture by Flemish farmers. [RIVERS.] In the dominions, the stream rises in the humble fountain, the course be occu-

## CHAPTER IV.

## NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes. Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

CLIMATE AND SEASONS.] THE climate of Austria Proper is commonly mild and salubrious, though sometimes exposed to violent winds, and the southern provinces in general enjoy delightful temperature, if the mountainous parts be excepted. The more northern regions of Bohemia and Moravia, with the late acquisitions in Poland, can likewise boast the maturity of the grape, and of gentle and favourable weather. The numerous lakes, and morasses of Hungary, and the prodigious plains, are supposed to render the air damp and unwholesome, the cold of the night rivalling the heat of the day; but the blasts from the Carpathian mountains seem in some measure to remedy these evils, the inhabitants being rather remarkable for health and vigour.

FACE OF THE COUNTRY.] The appearance of the various regions subject to Austria is rather mountainous than level, presenting a striking contrast in this respect to those of Russia and Prussia. Commencing at Bregentz on the lake of Constance, we find chains of mountains, and the Rhetian Alps, and glaciers of Tyrol, branching out on the south and north of Carinthia and Carniola. Another chain pervades Dalmatia, and on ascending towards the north, Stiria displays chains of considerable elevation. The southern limit of Austria Proper is marked by other heights; and Bohemia and Moravia are almost encircled by various mountains, which on the east join the vast Carpathian chain, that winds along the north and east of Hungary and Transylvania, divided from each other by another elevated ridge; the dismembered provinces of Poland, though in the south they partake of the Carpathian heights, yet afford the widest plains to be found within the limits of Austrian power.

This ample extent of country is also diversified by many noble rivers, particularly the majestic Danube, and its tributary stream the Tiefs, which flows through the centre of Hungary; and scarcely is there a district which is not duly irrigated. The general face of the Austrian dominions may therefore be pronounced to be highly variegated and interesting; and the vegetable products of both the north and south of Europe unite to please the eye of the traveller.

SOIL AND AGRICULTURE.] The soil is upon the whole extremely fertile and productive in spite of the neglect of industry, which has permitted many parts of Hungary, and of the Polish provinces, to pass into wide forests and marshes. Were skill and labour to assume the axe and spade, those very parts might display the greatest exuberance of fertility. The state of agriculture in Moravia is superior to the rest, being improved by Flemish farmers.

RIVERS.] In enumerating the chief rivers which pervade the Austrian dominions, the Danube commands the first attention. This magnificent stream rises in Swabia; and Count Marsigli has delineated and explained its humble fountains, in his large and curious work on this river. Though the course be occasionally impeded by small falls and whirlpools, yet it is navigable



navigable through a prodigious extent, and after watering Swabia, Bavaria, Austria Proper, Hungary, and Turkey in Europe, it joins the Euxine, or Black Sea, after a comparative circuit of about 1300 British miles, about one half of its progress being through the territories of Austria.

Next in consequence is the Tiefs, which arising from the Carpathian mountains, towards Buckovina, and bending towards the west, receives many tributary streams from that Alpine chain; and afterwards turning to the S. falls into the Danube not far to the W. of Belgrade, after a course of about 420 miles. At Belgrade the Danube receives the Sava, or Save, which forms a boundary between Austria and Turkey, rising not far from Idria in the mountains of Carniola, and pursuing a course nearly equal in length to that of the Tiefs. That of the Drau or Drave extends to about 350 miles, from its source in the eastern mountains of Tyrol, till it joins the Danube below Esseg.

The Inn rises in the E. of Switzerland, from the mountain of Molluggia in the Grisons, being a point of partition dividing the waters which run towards the Black Sea, from those which flow into the Adriatic\*. This powerful river is more gentle near its source than the other Alpine streams, but soon becomes more precipitous; and joins the Danube at Passau with a weight of water nearly equal to that stream, after a course of about 250 miles.

The Raab, and the Leytha, intermediate streams between the Drave and the Inn, only deserve a brief mention. The Mulda is a considerable river which rises in the southern mountains of Bohemia, and after running about 50 miles S. E. bends due N. and joins the Elbe near Melnick, after passing through Prague. The Elbe itself arises in the Sudetic mountains between Bohemia and Silesia, and waters a great part of the former kingdom before it enters Saxony, bending its course N. W. towards the German ocean. The Morau, whence Moravia derives its name, also arises in the Sudetic mountains; and passing by Olmutz joins the Danube not far to the W. of Presburg.

**LAKES.]** The lakes in the Austrian dominions are numerous, and some of them of considerable size. Bohemia presents a few small pieces of water towards its southern boundary: but on entering Austria Proper, the lake of Traun, the Ebernsee, and others, are of greater extent. Carinthia contains a large central lake not far from Clagenfurt; and Carniola another, the Cirknitz See. Hungary contains many morasses, and lakes; the most important of the latter being that of Platte, or the Platten See, extending about forty-five British miles in length, by eight breadth, and abounding with fish. The Neusidler lake, about thirty miles S. E. of Vienna, is about thirteen miles in length by four in breadth. It is almost surrounded by fens; and is chiefly remarkable for being in the vicinity of Eisenstadt, the princely residence of the family of Esterhazy. On the E. of the Tiefs is the lake of Palitzer, about eight miles in length. In Transylvania is the Tsege To; and many small lakes are situated amidst the Carpathian mountains.

**MOUNTAINS.]** In considering the various elevated chains which diversify the Austrian territories, the description shall begin with the western extremities, and terminate with the eastern. In this point of view the Rhetian or Tyrolese Alps will claim the first attention. These chiefly proceed in a direction from the S. W. to the N. E., or from the Valteline to the archbishopric of Salzburg. This Saussure has ob-

\* Coxe's Swiss. iii. 28.



served is the general course of the Alpine chains\*. The Brenner mountains, for such is the modern name of the Rhetian Alps, rival the grand Alps of Switzerland in numerous glaciers; and like other grand chains present exterior barriers, that on the N. being distinguished by the name of Spitz, while that on the S. is termed Vedretta†. On leaving Italy there is almost a gradual ascent, from Trent to the highest summit. The greatest elevations arise to the N. of Sterzing, whence streams proceed towards the river Inn on the N. and the Adige on the S., and the Eisack descends, a precipitous torrent, amidst masses of granite, petrosilex, and marble. "The naked and rugged peaks of the mounts Lorenzen, Fartschel, and Tschafatsch raise their towering heads towards the N. W., and on the S. E. are those of Glander, Schloß, Pragia, and Palanfer. Their summits are entirely bare; and seem to be composed of granite." The glacier most easy of access is that of Stuben, it is 4692 feet above the level of the sea, and presents the usual phenomena of such scenes, with beautiful pyramids of azure, which in sunshine reflect a blaze of light.

Towards the W. and N. of Inspruck are several detached mountains, covered with constant snow; among which those of Verner are the most remarkable. Near the glaciers are found rock crystals of various colours, and the inferior ranges of the Tyrolese mountains contain mines of silver, copper, lead, mercury, iron, alum, and sulphur. In the vale of Zill is a mine of gold, which barely defrays the expence and labour. The inferior mountains are, as usual, calcareous, or argillaceous; but those of Verne, are granite.

The provinces of Carinthia and Carniola present many considerable chains of mountains; as that of Lobel which separates these countries; and the Julian, or Carnic Alps, (now called Birnbaumer Wald,) which divide Carinthia from Italy.

Upper Austria, or the western part of this province, contains many considerable mountains, the highest of which is in the maps called Priel, but the proper name is Gressenberg. Towards the N., Austria is divided from Bohemia by a ridge of considerable elevation, which passes to the N. E. of Bavaria. On the N. W., Bohemia is parted from Saxony by a chain of metallic mountains, called the Ertzgeberg, a word that implies hills containing mines. On the W. of the river Eger, near its junction with the Elbe, stands the mountainous group of Mileßou, supposed to be the highest in the province. On the N. E. the Sudetic chain, which branches from the Carpathian, divides Bohemia and Moravia from Silesia and the Prussian dominions.

The Carpathian mountains, that grand and extensive chain which bounds Hungary on the N. and E., have been celebrated from all antiquity. By the Germans they are styled the mountains of Krapak, probably the original name, which was softened by the Roman enunciation: the Hungarians, a modern people, call them Tatra. This enormous ridge extends in a semicircular form from the mountain of Javornik S. of Silesia towards the N. W. But at the mountain of Trojaska, the most northern summit, it bends to the S. E. to the confines of the Buckovina, where it sends forth two branches, one to the E. another to the W. of Transylvania; which is also divided from Walachia by a branch running S. W. and N. E. The whole circuit may be about 500 miles. The highest summits of these mountains, according to Dr.

\* Vol. viii. 241. † Beaumont's Rhet. Alps, London, 1792, fol. p. 37, &c.

Townson, do not exceed 8 or 9000 feet, and they are for the most part composed of granite and primitive limestone.

**FORESTS.]** To enumerate the forests in the Austrian dominions would be a task at once laborious and fruitless. Suffice it to observe, that numerous and extensive forests arise in every direction, particularly along the Carpathian mountains, and in the provinces acquired from Poland. Even Bohemia was formerly remarkable for a forest of great extent, a remain of the Hercynia Sylva of antiquity, which extended from the Rhine to Sarmatia, from Cologne to Poland. The Gabreta Sylva was on the S. W. of the same country, where a chain of hills now divides it from Bavaria.

**BOTANY.]** The states which compose the powerful and extensive empire of Austria have been surveyed with very different degrees of accuracy as to their natural productions. While the botany of Austria Proper has been carefully illustrated by Jacquin; and that of Carniola by Scopoli and Hacquet, the flora of Hungary is still very imperfect; and the acquisitions in Poland by the last and former partitions are as yet in a manner unknown to natural history. The general mild temperature of the Austrian states, their variety of soil and situation, from the lakes and rich levels of Hungary, to the snowy summits of Istria and Carinthia, are a sufficient evidence of the richness of their flora; each year it is augmented by the discovery of new species, and will doubtless long continue to be increased by the investigations of future botanists. We shall follow the plan to which we have hitherto adhered of enumerating, as far as our narrow limits will allow, the principal vegetables, natives of Austria, which for their beauty or use merit particular notice; of these it will be found that a large proportion has been admitted into our gardens, and many more, from the elegance of their form, or glow of colour, have an equal claim to domestication.

The bulbous-rooted plants, remarkable, for the most part, for the beauty of their flowers, and abounding chiefly in the warmer climates, occupy a conspicuous rank in the flora of Austria, a long list of these might be produced, but we shall select only the principal: these are the tufted and clustered hyacinth; *alium victorale*, one of the most stately and ornamental species of the large genus garlic; the orange lily; *martagon*, and turncap lily; dog's tooth violet, one of the earliest beauties of the spring; yellow and tawny day lily; and lastly, though perhaps superior in beauty to any of the preceding, *veratrum album* and *nigrum*, *white and black hellebore*.

To the class decandria belong several interesting plants, of which the following are the most worthy of mention: alpine and maiden pink; *fraxinella*; and two species of *rhododendron*, the hairy and ferruginous, both of which merit distinction in a genus, every species of which is more than commonly beautiful.

The Linnæan class pentandria contains the most beautiful of the indigenous plants of the Austrian dominions, several of which have found their way into our gardens. The moist and spungy sides of the mountains from the Carpathian chain to the heights of Istria are adorned by the *foldanella alpina* and *aretia alpina*, two minute, but exquisitely beautiful plants, the former with purple, the latter with white and flesh-coloured blossoms. Among the numerous species of *flax*, the following very elegant ones are natives of Austria: hairy flax; yellow flowered f.; and Austrian f.; with large deep-blue blossoms; the stemless gentian, distinguished

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distinguished by its large erect blue bell-shaped blossom, rising immediately from the centre of the leaves; and the Pannonian gentian, the most splendid of the whole genus, growing to a considerable height, and bearing its large purple-dotted blossoms in tufts on the top and sides of the stem.

Of the papilionaceous plants may be enumerated the greater laburnum, a tree of some magnitude, adorning the banks of the Danube with its long clusters of golden blossoms.

Several remarkable plants, inhabitants of the Austrian dominions, arrange themselves under the Lianæan class polyandria; among these may be distinguished two species of Adonis, or pheasant's eye, adorning the fallows with their scarlet petals; the alpine poppy, remarkable by its snow-white flowers; mountain anemone; the Christmas rose; and potentilla nitida, conspicuous for its beautiful flesh-coloured petals, and its glaucous leaves; the sacred lotus of Egypt and India has also of late been found in some lakes in Hungary.

The perennial shrubby plants may be divided into the flowering shrubs, the fruit-bearing, and the forest trees. Of the former class, the laburnum has been already mentioned; the rest, with the exception of the flesh-coloured heath, lilac, and German tamarisk, are scarcely interesting, except to botanists. The common fruit-trees of Europe are largely cultivated in the provinces of Austria, but their list of native fruits is very scanty. The forest trees are, the elm; the wych elm; lime-tree; birch and alder; common and prickly-cupped oak; sumach; walnut; chestnut and beech; hornbeam; black and white poplar and aspen; sycamore and maple; the ash; the pine, the fir, the yew-leaved fir, and the larch.

**ZOOLOGY.]** The domestic animals in the Austrian dominions are commonly excellent, particularly the cattle. Many of the native horses run wild, and are sold in great numbers at the fairs, before they have suffered any subjection. The breed of cattle is mostly of a singular colour, a slaty blue; and the Hungarian sheep resemble the Walachian in their long erect spiral horns, and pendant hairy fleece. In the western parts of the Austrian sovereignty the animals do not seem to be distinguished from those of other parts of Germany.

The large breed of wild cattle, called Urus or Bison, is said to be found in the Carpathian forests, as well as in those of Lithuania and Caucasus. Among the wild quadrupeds may also be named the bear, the boar, the wolf, the chamois, the marmot, and the beaver. The Danube boasts of some fishes seldom found in other rivers, among which is a small and delicate sort of salmon.

**MINERALOGY.]** The mineralogy of the Austrian dominions being by far the most various and interesting of any in Europe, it will be proper to consider it with some attention. There is scarcely a province of this extensive territory, from the frontiers of Switzerland to those of Turkey, which cannot boast of advantages in the mineral kingdom; and as it were by a destiny attached to the house of Austria, even the acquisitions in Poland contain one of the most remarkable mines in Europe, the saline excavations of Wielitka. The mines of Bohemia have been celebrated from ancient times\*. Silver is found at Kuttenberg, and at Joachimsthal, on the western frontier towards Saxony, probably a continuation of the veins of that country; and gold has been discovered at Keonstock. One

\* Busching, vol. vi. 126. French edit. 8vo.

of the most singular products of this province is tin, which is found at Zinwald (that is the tin forest), and other western districts of Bohemia: where is also found, at Dreyhacken, a mine of very pure copper. Lead occurs at Bleytadt, in the same quarter. The garnets of Bohemia are among the most beautiful of the kind. They are chiefly found in clay, mingled with mica, at Meronitz, in the mountain of Stiefelberg, whence they are carried to Bilen\*. The women wash the clay in which the garnets are found; after which they are sifted and arranged according to size, and sold by the pound weight from about three to ten shillings. Many workmen are occupied in cutting and piercing them, for necklaces, and other ornaments: they are polished in facets, with emery on a piece of freestone, and pierced with a small diamond. This branch of commerce is of great antiquity at Carlsbad, and at Walkirk in Suabia, where twenty-eight mills are occupied in this article only.

The fertile archduchy of Austria displays few minerals, though there be mines of gold near the abbey Goettwig, and of alum near Krems: saltpetre is however prepared in abundance; and, at a little distance from St. Annaberg, near the frontiers of Stiria, a rich mine of silver was opened in 1754. The southern provinces of Stiria, Carinthia, and Carniola, afford many important minerals. The iron of Stiria supplies the finest steel, and great quantities are imported into England: there are considerable lead mines near Pegau, on the river Mohr, yielding about 5000 tons yearly. Stiria also affords coal at different places; not to mention minerals of mere beauty or curiosity, among which may be named the singular blue granite, which is found near Krieglach, in Stiria.

On the E. of Stiria extends the duchy of Carinthia, also yielding excellent iron, the mines of Friesach on the N. being particularly famous. In the neighbourhood of Villach, at Bleyberg, are found rich lead mines; and the same place supplies what is called fire-marble, or lumachelli.

Carniola, or Krain, abounds with immense caves, and other natural curiosities; but, except a few iron works, the mineralogy is little remarkable. On the west, towards the county of Gorz, which produces excellent wines, lies the ban of Idria, a district immediately subject to the chamber of Inner Austria at Gratz. The quicksilver mines of Idria are celebrated in natural history, poetry, and romance. They were discovered in the year 1499; and the hill of Vogelberg has annually yielded more than 300,000 pound weight of mercury. The common ore is cinabar; but sometimes pure quicksilver runs through the crevices.

On passing into Tyrol, several mines occur of ancient reputation, such as that of silver and lead near Lermos; and in the same quarter those of Nasereit in the Verner mountains, about 30 miles N.W. of Inspruck, which are opulent in silver, copper, lead, and iron†.

But the principal mines in the Austrian dominions are situated in the eastern provinces of Hungary and Transylvania. About 40 miles to the S. of the Carpathian hills are the gold mines of Cremnitz; and 20 English miles further to the S. the silver mines of Schemnitz: cities which have arisen solely from these labours, and thence called mining towns. Schemnitz is esteemed the principal. The academy here instituted for the study of mineralogy is highly respectable, and only rivalled

\* Journ. des Min. No. iv. 36.

† Beaumont, 77. Feyer, 329.

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by that of Freyberg in Saxony. Hungary contains mines of copper at Schmelnitz and Herrengrund, of very rich antimony at Roienau; and in different parts of coal, salt, and alum. Saltpetre is also produced in considerable quantities; and natron or soda is found in a lake near Kismaria, towards the frontier of Transylvania\*. But a mineral peculiar to Hungary, and as yet discovered in no other region of the globe, is the opal, a gem preferred to all others by the oriental nations. The opal mines are situated at Czerweniza, a short day's journey to the N. of Kaschaw, and nearly under the same latitude with Crennitz. The hill in which they are found consists of decomposed porphyry; and they only occur at the distance of a few fathoms from the surface, of various qualities, from the opaque white, or semi-opal, which is also discovered in Cornwall, to that utmost effulgence of iridescent colours which distinguishes this noble gem.

The mines of Transylvania and the Bannat are also numerous and valuable. Those of Najiag, twelve British miles to the N.E. of Deva, produce the grey gold ore. They are the richest in all Transylvania, and conducted with the greatest care and exactness. At Ofenbanya, about 25 British miles to the N. of Karlsburg, is found the white gold ore, which also occurs in the hills of Fatzebay, in the same quarter. The country towards the W. of Karlsburg presents numerous gold mines near Zalathna; and in the N. of this province are those of Kapnick, Felsobanya, and others. The chief mining town of the Bannat is Oraviza, towards the S. of which are found mines of copper; and gold and silver at Dognaska to the N.

The salt mines acquired from Poland alone remain to be described. They are situated, as already mentioned, at Wielitska, eight miles to the S. of Cracow, being excavated at the northern extremity of a branch of the Carpathian mountains. The descent is by pits of great depth; and the galleries and chambers are of immense size, commonly supported by timber, or by vast pillars of salt, out of which material even subterraneous chapels are formed; but travellers have highly exaggerated the splendour and extent of the saline apartments†. The salt is of an iron grey colour, sometimes intermingled with white cubes; and sometimes large blocks of salt appear imbedded in marl‡. The purest sort is found at the bottom of the mine, and is sparry. The mines extend about 3600 feet from E. to W., and about 200 from S. to N.

**MINERAL WATERS.]** The mineral waters in the Austrian dominions are very numerous, as is to be expected in a country so mountainous, with the exception of the great plain in the W. of Hungary, extending upwards of 250 miles in every direction. Austria Proper presents those of Baden; and Bohemia those at Carlsbad. Mineral springs also abound in Hungary.

**NATURAL CURIOSITIES.]** Among the natural curiosities may be named the grand Alpine scenes of Tyrol, the glaciers and peaks of the Brenner. In Carniola, near Adlesberg, is said to be a grotto of prodigious extent, displaying spaces sufficient for the erection of villages, and containing natural amphitheatres, bridges, &c.§. But the chief natural curiosity of Carniola is the lake of Cirknitz, called by Dr. Brown the Zirechnitzer See. That traveller informs us, that it is about two German, or more than eight English miles in length, by four of the latter in breadth.

\* Journ. des Min. No. ii.

† Townson, 388.

‡ Cox's Pol. i. 200.

§ Busching, vol. vii. 60.



In the month of June the water descends under ground, through many apertures in the bottom; and in September it reascends with considerable force; thus yielding rich pasturage in summer, while in winter it abounds with fish.

## PRUSSIA.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names.—Extent—Subdivisions and Population.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**THIS** kingdom which only commenced with the eighteenth century, has by gradual accessions become so extensive, as deservedly to rank among the first powers of Europe. The dominions of Prussia were small and scattered, till the acquisition of Silesia, and afterwards of a third part of Poland, gave a wide and stable basis to the new monarchy.

**NAMES.]** This region was faintly known to the ancients, who mention various tribes that possessed it: and the amber, which here only was found in such quantities as to form a regular article of commerce, greatly contributed to its celebrity. The name of the country originates, according to some, from the Pruzzi, a Slavonic tribe; but more probably, according to others, from the name of *Russia*, and the Slavonic word *Pe*, which signifies near, or adjacent.

**EXTENT.]** Exclusive of small detached territories, the kingdom of Prussia extended (1806) from Hornburg and the river Oker, in the country of Halberstadt, the furthest western connected district, to the river Memel, or about 600 miles. The breadth, from the southern limit of Silesia to Dantzick, exceeds 300 miles. On the east and south, Prussia now borders on the dominions of Russia and Austria, and the western limits adjoin to the bishopric of Hildesheim. Before the recent acquisitions in Poland, the number of Prussian subjects was only computed at 5,621,500, in a total extent of 56,414 square miles, that is about 99 to the square mile. In 1801 they amounted to above eight millions, distributed according to the following list of provinces and inhabitants.

|                   |                           |   |           |              |
|-------------------|---------------------------|---|-----------|--------------|
| Contiguous States | 1. Eastern Prussia        | — | 940,000   | Inhabitants. |
|                   | 2. Western Prussia        | — | 521,625   |              |
|                   | 3. Southern Prussia       | — | 1,100,000 |              |
|                   | 4. New Eastern Prussia    | — | 700,000   |              |
|                   | 5. Pomerania              | — | 472,957   |              |
|                   | 6. Brandenburg or Mid-    |   |           |              |
|                   | dlemarch                  | — | 755,577   |              |
|                   | 7. Newmarch               | — | 279,584   |              |
|                   | 8. Magdeburgh             | — | 275,262   |              |
|                   | 9. Halberstadt, or Ucker- |   |           |              |
|                   | march                     | — | 111,875   |              |
|                   | 10. Silesia               | — | 1,821,065 |              |

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| In Westphalia | 11. Minden         | — | 67,952           |
|               | 12. Ravensburgh    | — | 81,812           |
|               | 13. East Friesland | — | 102,594          |
|               | 14. Cleves         | — | 100,000          |
|               | 15. Mœrs           | — | 17,000           |
|               | 16. Mark           | — | 121,984          |
|               | 17. Gelder         | — | 48,000           |
|               | 18. Tecklenburg    | — | 17,234           |
| In Franconia  | 19. Lingen         | — | 23,432           |
|               | 20. Anspach        | — | 215,256          |
| Switzerland   | 21. Bayreuth       | — | 205,440          |
|               | 22. Neufchatel     | — | 42,500           |
|               |                    |   | <hr/> 8,021,149* |

The present boundaries of Prussia may be estimated by the following articles in the treaty of peace with France in 1807.

"II. The part of the duchy of Magdeburg, which lies on the right bank of the Elbe, the Mark of Prerignitz, the Uckermark of Brandenburg, with exception of the circle of Kotbers in Lower Lusatia, the duchy of Pomerania, Upper, Lower, and New Silesia, with the county of Glatz, the part of the district of Neß which lies to the north of the road from Driesen, Schreidemath, and to the north of a line passing from Scrudemapt, by Walden, to the Vistula and to the circle of Bromberge, Pomerania, the island of Nogat, to the west of Old Prussia, and the north of the circle of Culmor; finally the kingdom of Prussia, as it was on the first of January 1772, shall be restored to his majesty the king of Prussia, with the fortresses of Spandau, Stettin, Cultrin, Glogan, Breslau, Schwiednitz, Neisse, Brieg, Cöfel, and Glatz, and in general all the places, citadels, castles and forts, of the above-mentioned, shall be restored in the state in which they at present are. The town and citadel of Grandenz, with the villages of Neudorf, Parschken, and Schweirkorzy, shall likewise be restored to his majesty the king of Prussia.

"XIII. The king of Prussia renounces for ever possession of all the provinces which formerly constituted parts of the kingdom of Poland, and have at different periods come under the dominion of Prussia, excepting Eroneland, and the country to the west of ancient Prussia, to the east of Pomerania, and the New Mark to the north of the circle of Hulm, and a line which passes from the Vistula by Waldan to Schneidemul, and passes along the boundaries of the circle Bromberg, and the road from the Schneidemul to Driesen, which provinces, with the town and citadel of Grandenz, and the villages of Neudorf, Parschken, and Swierkorzy, shall in future be possessed by the king of Prussia."

ORIGINAL POPULATION.] The original population of Prussia appears, from Tacitus and Pliny, to have consisted of the Peucini and Ælitii, Gothic tribes bordering on the Venedi, who were Slavons. The amber of the Ælitii continued to be celebrated in the time of Theodoric; but at what precise period these original inhabitants were expelled, or subdued, by the Slavonic tribes on the east, remains uncertain. Suffice it in general to observe, that the Slavonic tribes extended widely over the N. of Germany, after the old Gothic inhabitants had crowded to the more fertile

regions of the south, in consequence of the decline and fall of the Roman empire.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of those provinces which now constitute the Prussian territory, would form an embroiled and multifarious topic. One of the most singular features in the geography of these regions, during the middle ages, is the existence of Julin, a city of great extent and commerce, on the right bank of the Oder in Pomerania, which was destroyed by Waldemar, king of Denmark. Farther to the east the Slavonic tribes on the Baltic continued pagans to a late period; and the country was little known or visited, except by a species of crusaders, who went to assist the Teutonic knights in subduing those Saracens, as they were styled in the ignorance of the times.

**HISTORICAL EPOCHS.]** As this kingdom is recent, and composed of several ancient states, its historical epochs and antiquities are of course complex. Not to mention the smaller provinces, among which is the distant principality of Neufchatel, on the frontiers of France and Switzerland, Prussia may be regarded as consisting of four great divisions, the electorate of Brandenburg; the kingdom of Prussia Proper; the large province of Silesia; and a third part of the ancient kingdom of Poland. As the family which now rules those extensive domains was originally the electoral house of Brandenburg, it will be proper first to trace the progress of its power.

1. The emperor Charles IV., in 1373, assigned Brandenburg to his second son Sigismund, who, in 1415, being then emperor of Germany, sold his margraviate and electorate to Frederic burgrave of Nuremberg, for 400,000 ducats. This prince was the ancestor of the present reigning race.

2. Joachim II. elector of Brandenburg, embraced the Lutheran religion in 1539, which has since been the ruling system of the state.

3. John Sigismund becomes duke of Prussia in 1618.

4. Frederic William, surnamed the Great Elector, succeeded his father in 1640; and in 1656 compelled the king of Poland to declare Prussia an independent state, it having formerly been held of the Polish sovereigns. This prince is highly praised by his royal descendant, the author of Memoirs of the House of Brandenburg, as the chief founder of the power of that family. He was succeeded in 1688 by his son.

5. Frederic III., or I. as King, who, supporting the emperor in the contest for the Spanish succession, was by him declared king of Prussia: under which title he was proclaimed at Konigsberg, on the 18th day of January, 1701, he himself placing the crown upon his head.

6. Frederic William II., or I. as King, ascended the throne in 1713; and in 1721 founded the city of Potsdam. But he was chiefly remarkable as the father of that great prince Frederic II. \*, who ascended the throne in 1740, and died in 1786, after a long and glorious reign; the most memorable and lasting event of which was the acquisition of Silesia from the house of Austria in 1742.

7. The short reign of his nephew is known to every reader. The failure of the Prussian tactics in France and Poland convinced Europe that the great Frederic had been the soul of the machine. But these

\* In the regal genealogy the name of Frederic alone is considered as distinct from that of Frederic-William.

checks were recompenced by the completion of the Prussian acquisitions in Poland. The reign of his son, the present monarch, has proved, of all others, the most unfortunate, the Prussian monarchy being now reduced to a cypher.

The historical epochs of Prussia Proper are not deserving of much elucidation. The knowledge of the ancients concerning this country has already been explained. A faint dawn of history, in the middle ages, discloses at the mouth of the Vistula the Pruzzi, a Slavonic nation, who were afterwards subdued by the knights of the Teutonic order.

1. This order originated A. D. 1190, in the camp of the crusaders before Acca, or Acre, from some citizens of Lubec and Bremen. Next year a bull of institution was obtained from the pope, with all the privileges granted to the knights templars. The crusades to Palestine having failed, the knights directed their enterprise against the pagans of the N. of Germany, A. D. 1227; and in a few years conquered Prussia, and founded several cities.

2. The knights thus established in Prussia directed their efforts against the Lithuanians, and other pagans in the east. But repeated wars with Poland were less fortunate; and about 1446 the four chief cities of Prussia, Elbing, Thorn, Königsberg, and Dantzick, withdrew their allegiance from the Teutonic order, and claimed the protection of Poland.

3. In 1466, Casimir king of Poland forced the Teutonic order to abandon to him the eastern part of Prussia, and to pay homage for the western part.

4. Albert of Brandenburg, grand-master of the order, obtained from his maternal uncle, Sigismund king of Poland, the hereditary investiture of all that the order possessed in Prussia, and embraced the Lutheran religion.

5. In 1618, John Sigismund, elector of Brandenburg, acquired this duchy; and in 1621 his successor received the solemn investiture from the king of Poland.

Silesia affords few materials for history. This country was formerly a Slavonic province of the Polish dominions; but in 1339 was seized by John of Luxemburg king of Bohemia, and passed with that sovereignty to the house of Austria. The house of Brandenburg certainly had some ancient claims to this province, which were finally ascertained by the sword in 1742, as already mentioned.

As not only the recent acquisitions in Poland were of far more comparative consequence to Prussia, than either to Austria or Russia; and as in fact this sovereignty was in possession of the metropolis, and all the chief cities and ports of Poland, and may be said to exist only on the basis of that ancient kingdom, which it represented in the modern balance of power, it will be proper here to repeat, in a few words, the chief epochs of the Polish history.

1. Even in the Roman times Poland was chiefly possessed by the Sarmatæ, or Slavons; and the Poles pretend to trace their dukes from the sixth century. But the authentic history only begins with Piast, A. D. 842. In 992 the Christian religion was introduced.

2. Uladslas, duke of Poland, assumed the title of king, A. D. 1320; and was succeeded by his son Casimir, surnamed the Great.

3. The house of Jagellon, dukes of Lithuania, ascended the Polish throne in 1384, and ruled till 1572, in hereditary succession, though with pretended election.

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4. The throne of Poland becomes merely elective in the person of Henry de Valois, 1574; but it was afterwards chiefly contested by native princes, and by the electors of Saxony.

5. John Sobieski, king of Poland, in 1683 forced the Turks to raise the siege of Vienna, which was the last valiant action achieved by the Poles.

6. The recent annihilation of the monarchy.

ANTIQUITIES.] From this general view of the component parts of the Prussian history it will appear that few ancient monuments can be expected in regions, where even a rude knowledge of the arts is comparatively so recent. Some Slavonic idols, cast in bronze, constitute almost the only pagan antiquities; and the castles, and churches, erected after the introduction of the Christian religion, have few singularities to attract particular attention. The Polish coinage begins about the twelfth century, and is upon the German model.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Colonies.—Army.—Navy.—Revenues.—Political Importance and Relations.*

RELIGION.] THE ruling religion of Prussia is the protestant, under its two chief divisions of Lutheran and Calvinistic. But after the recent acquisitions in Poland it would seem that the greater number of the inhabitants must be Roman Catholic. The universal toleration which has been wisely embraced by the Prussian monarchs, has had its usual effect of abating theological enmity, and the different sects seem to live in perfect concord.

ECCLESIASTICAL GEOGRAPHY.] The ecclesiastical geography of Prussia would be at once little interesting, and of difficult detail. The bishoprics in Poland and Silesia seem to retain their ancient limits, while the power of the prelates is considerably abridged.

GOVERNMENT, &c.] As no vestige of any senate or delegates from the people is known in this kingdom, it must be pronounced an absolute government; but the spirit and good sense of the nation unite with the wisdom and mildness of successive monarchs, (who have uniformly wished to invite foreign settlers by views of ease and freedom, instead of expelling their own people by rigour,) to render the sovereignty as conciliatory, and perhaps more beneficent, than if joined with a venal senate. The late great monarch reformed many abuses in the laws; but it cannot be disguised that the tenor of his government was too military, a fault inherent in the Prussian system.

COLONIES.] No foreign colonies have emigrated from Prussia; and it has been indeed a chief object with the monarchs to colonize the country itself.

ARMY.] The army is supposed to amount to about 137,000, including about 40,000 cavalry. The tactics of the late able sovereign conferred distinguished reputation on the Prussian battalions, but they are now supposed not to exceed the Austrian; and military men consider both as inferior to those of Russia, who seem to be justly regarded as the best troops in Europe.

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NAVY.] The acquisition of Dantzick, and some other ports in the Baltic, may in time place Prussia among the maritime powers; but hitherto the sole attention has been paid to the land service.

REVENUES.] Before the additions of Polish territory the revenue was estimated at 3,880,000*l.* sterling; and the expence of the army at 2,275,000*l.*\* Frederic II. laudably expended about half a million sterling yearly, in the improvement of his dominions. The entire revenue of Poland was not computed to exceed 439,546*l.* sterling. If we even suppose half of this added to the Prussian revenue, the result would not be important; Prussia, however, has the supreme advantage of freedom from national debt, whence the smallness of the revenue has never been regarded as detracting from its position among the chief European powers.

POLITICAL IMPORTANCE AND RELATIONS.] (1806.) The political importance and relations of this kingdom have impressed the European history of this century with new and distinct features. What Poland would have been, if blessed with a happier government, and executive energy, may be conceived from the present appearance of Prussia, exclusive only of one circumstance that of contiguity with the Ottoman dominions. An alliance with Prussia would be indeed of supreme importance to the Turkish empire; nor can it be the interest of Prussia to permit Russia to extend her aggrandizements.

In regard to the other chief powers of Europe, England, France, Russia, and Austria, an alliance of the first with Prussia has repeatedly been enforced by circumstances; but it cannot be disguised that there is a more necessary and important connection between Prussia and France, as both have cause to be jealous of the Austrian power, which France can essentially injure, while England is by nature debarred from any preponderating interference. But a chief province of Prussian politics must be the defence of the country against the arms and influence of Russia, for which purpose a most important step would be a firm alliance, cemented by every political tie and interest, between Prussia, Denmark, and Sweden, which, if the Russian empire remain undivided, will be the sole barrier of continental independence.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities—Cities and Towns.—Edifices.—Roads.—Inland Navigation.—Manufactures and Commerce.*

MANNERS AND CUSTOMS.] **T**HE manners and customs of a country composed of such various inhabitants, recently united under one sovereignty, must of course be discordant. Travellers have remarked that, in comparison with the Saxons, who are a lively and contented people, the Prussians appear dull and gloomy; a character which they impute partly to the military government, and partly to the general anxiety which must have been excited by the repeated dangers to which their country was exposed, when

\* Doetticher, p. 50.

contending with the powers of Russia and Austria. As to the Poles, they seem full of life and action, but their features and general appearance are rather Asiatic than European. "Men of all ranks generally wear whiskers, and shave their heads, leaving only a circle of hair upon the crown. The dress of the higher orders, both men and women, is uncommonly elegant. That of the gentlemen is a waistcoat with sleeves, over which they wear an upper robe of a different colour, which reaches down below the knee, and is fastened round the waist with a sash or girdle; the sleeves of this upper garment are, in warm weather, tied behind the shoulders; a *fabre* is a necessary part of their dress, as a mark of nobility. In summer the robe, &c. is of silk, in winter of cloth, velvet, or stuff, edged with fur. They wear fur caps or bonnets, and bukins of yellow leather, the heels of which are plated with iron or steel. The dress of the ladies is a simple *polonoise* or long robe, edged with fur \*."

**LANGUAGE.]** The ruling language of Prussia is the German, which it is probable may in time supplant the Polish, in those parts which are subject to Prussia and Austria.

**LITERATURE.]** The literature of Prussia may well be conceived to be of recent origin: nor even after the restoration of letters did any remarkable author arise in the electorate of Brandenburg. But Dantzick was the native country of Cluverius, an eminent geographer; and Copernicus, a great name in astronomy, was born at Thorn, as his predecessor Regiomontanus was at Konigsberg, his name being a Latin translation of that of his birth-place. Silesia has likewise few pretensions to literary fame, nor are those of Poland highly illustrious. Kadlubko, the most ancient Polish historian, wrote in 1223; and since his time, there has been a succession of Latin chroniclers. Frederic the Great had a mean opinion of German literature; and though he wrote in French, must be classed among the most distinguished authors of his kingdom. Nor is Count Hertzberg, his minister, without merit. Among the other names, either natives or who flourished in Prussia, may be mentioned Ramler the poet, Nicolai an original writer of romances, &c. Busching the geographer, Spalding, and Mendelssohn †.

**EDUCATION.]** The state of education in this country seems to be equally neglected as in the far greater part of Europe. The number of recruits wanted for the army, and the consequent uncertainty of destination for life, must singularly impede the national instruction.

**UNIVERSITIES.]** There are however several universities, such as that of Frankfort on the Oder, founded by Joachim elector of Brandenburg in the year 1516. Konigsberg in Prussia was founded in 1544. Of the Polish universities Cracow has fallen to Austria, and was founded in 1364; and Wilna, founded in 1570, to Russia. Posen or Posen has become subject to Prussia.

**CITIES AND TOWNS.]** Among the chief cities of Prussia must first be mentioned Berlin, situated on the banks of the river Spree, and regularly fortified. It was founded in the twelfth century, by a colony from the Netherlands, and contains 142,000 inhabitants, being about four miles and a half long and three wide; but within this inclosure are many gardens, and sometimes even fields; the number of houses is 6950. The city is more remarkable for the elegance of the buildings than for its wealth or industry, many beautiful houses being let in stories to mechanics. Next to Berlin may be mentioned Konigsberg,

\* Cox's Trav. into Pol. &c. i. 194.

† Reischek's Trav. iii. 44.

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of which the population is computed at about 52,000. This city was founded in the thirteenth century, and is well fortified. It maintains a considerable trade by the river Pregel, which flows into the gulf of Dantzick.

Breslaw, the capital of Silesia, has been long celebrated as one of the most beautiful cities in Germany. It is of uncertain antiquity, but was destroyed by the Tatars in the thirteenth century. The population is at least equal to that of Königsberg; and it has several manufactures, the linens of Silesia being particularly celebrated. The ruling religion is that of Luther.

Among the chief cities of Prussia must not now be forgotten Warsaw, the former capital of Poland; and Dantzick, an independent city of ancient fame. Warsaw stands partly in a plain, partly on a gentle ascent rising from the Vistula, but the appearance is melancholy, from the general poverty of Poland under its former unhappy government\*. The population was computed at 70,000, including the unfortunate suburb of Praga; but it must have been much thinned by the destructive sword of Suwarrow. Yet Hoeck states it at 66,572.

Dantzick, now lost to Prussia, contains about 36,000 inhabitants, and was known as a commercial town even from the tenth century. It was considered as the chief city of the Hanseatic league, and was enlarged and adorned by the knights of the Teutonic order. It must still be considered as the chief staple for the exportation of the corn and the other products of Poland: but its commerce has been for some time on the decline.

A few other cities of the Prussian dominions deserve geographical enumeration, in a progress from the more ancient territories in the west, to the recent acquisitions in the east.

In the electorate of Brandenburg, and in the adjoining duchy of Magdeburg, on the west, may be named Brandenburg, a small city of 6000 inhabitants; and Frankfort on the Oder which contains about 16,000. Potsdam, a recent city, is situated on an island, amidst lakes and canals, and no expense has been spared in its decoration. The royal castle was built in 1663, and it has since been a favourite residence of several Prussian monarchs. The inhabitants are computed at 26,000. The other cities, or rather towns in Brandenburg, seldom contain 5000 inhabitants; but the duchy of Magdeburg presents the capital so called, which is supposed to hold about 26,000 souls, and is strongly fortified with a citadel on an isle in the Elbe. This city dates its origin from the time of Charlemagne; and can boast of elegant streets and flourishing manufactures. The Imperialists taking it by storm in 1631, a dreadful slaughter ensued, the inhabitants who perished being computed at about 10,000. In the same duchy, but disjoined by part of Upper Saxony, stands also Halle on the Saale, more than fifty miles to the S. of Magdeburg: the inhabitants of Halle are computed at 21,000. Nor must Halberstedt, the capital of an adjoining principality, be omitted, as it contains about 12,500 souls; in which number it is rivalled by Quedlinburg in the same province. The Westphalian dominions of Prussia present no city of much account, and the remote town of Neufchatel contains only about 6000 souls.

On proceeding to Pomerania on the N. first occurs Stettin, a city on the Oder of some trade, and about 18,000 inhabitants. Those of Stargard, in Farther Pomerania, are not estimated at above 6000.

In Prussia, properly so called, may be named Elbing, which is supposed to hold 14,000 souls. The other secondary towns rarely exceeded 3000 inhabitants, till acquisitions of adjacent territory gave to Prussia Thorn, with a population of 10,000. Excepting Breslaw, the capital, already mentioned, there are only three towns in Silesia, which contain more than 6000 inhabitants; namely Glogau, Hirschberg, and Schweidnitz. Nor, if we exclude Warlaw and its suburbs, do any of the towns recently acquired in Poland even equal this population.

**EDIFICES.]** Some of the most splendid edifices of this country adorn Berlin the capital, such as the palace and the theatre. But the other grand buildings seem not to have impressed travellers with veneration, being barracks for soldiers and the like \*. And the city itself is almost entirely built with brick, though the fronts of the houses are disguised with stucco. The palace at Potsdam deserves superior applause; and on an eminence near the city stands the royal villa of Sans Souci, which however can claim no grandeur of external architecture. Konigsberg, and Dantzick, also offer to view respectable public buildings; but in general this kingdom yields even to Russia in this respect.

**INLAND NAVIGATION.]** The advantages of inland navigation seem little known or cultivated in the Prussian dominions; and though several small canals might be mentioned, yet they rather belong to the office of the topographer than to a general system of geography.

**MANUFACTURES AND COMMERCE.]** If we except the linens of Silesia, the manufactures of the Prussian dominions are of small importance. Yet they afford, for home consumption, glass, iron, brass, paper, and woollen cloth; and Frederick II. introduced a small manufacture of silk. Even the exports of Dantzick consist almost entirely of timber, corn, tallow, and similar articles.

If we except the ancient staple of grain, so abundant in the level plains of Poland, the commerce of Prussia is comparatively of but little consequence. Amber is by nature constituted a monopoly of the country, but fashion has rendered this branch of commerce insignificant. Yet among the considerable exports may be named excellent timber of all kinds, skins, leather, flax, and hemp; nor must the linens of Silesia be passed in silence, many of which are sent into Holland, and sold under the name of Dutch manufacture. In return, Prussia receives wine, and other products of more southern and favoured countries.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** **T**HE climate of the Prussian dominions is, upon the whole, cold and moist. Brandenburg and Pomerania may be regarded as more free from humidity, than Prussia Proper, which, as Busching informs us †, has about eight months of winter, the autumns being often deluged with rain. The northern part of Poland, which has fallen under the Prussian sceptre, abounds with forests and marshes, which cannot be supposed to render the air salu-

\* Wrexall's Mem. i. 101.

† lil. 5.

lous. The lower parts of Silesia are regarded as the most healthy and fertile provinces of the monarchy ; but the southern and western parts of that duchy, bordering on elevated mountains, long covered with snow, are exposed even in summer to severe freezing gales.

FACE OF THE COUNTRY.] In considering the general appearance of these extensive regions, Brandenburg is a sandy and barren country, but Prussia Proper formerly abounded in woods, and displays superior fertility, a character which may be also extended to Prussian Poland, an immense plain. Silesia, on the contrary, displays a pleasing diversity, being level and open towards Poland, but separated from Hungary on the S. by the Carpathian mountains, a branch of which proceeding N.W. divides this country from Moravia and Bohemia. It is every where watered by the Oder and its tributary streams ; nor is there any deficiency of rivers in the other parts of the Prussian sovereignty.

SOIL AND AGRICULTURE.] The soil of Brandenburg is meagre, and even the space between Berlin and Potsdam resembles a wilderness ; but that of Prussian Poland is loamy and fertile. The northern extremity of Silesia resembles Brandenburg, yet this province is in general extremely productive, and abounds in fruits and culinary vegetables.

Agricultural improvements are little known, and Brandenburg chiefly produces buck wheat and turnips, with scanty crops of rye ; but Prussia Proper and the Polish provinces display every kind of grain and esculent plant that can flourish under such a latitude ; and among the productions of Silesia must be classed maize, and even vines, but the wine is of inferior quality.

The peasants, though oppressed by heavy taxation, being free from the wanton extortions, and capricious personal services, exacted by the Polish aristocracy, display signs of comparative ease and prosperity. In different parts of Silesia the land is let in farms, as in England, and the peasants hired as day labourers ; while under the detestable government of Poland they were mere slaves, and every avenue to industry was barred.

RIVERS.] Among the chief rivers of the Prussian dominions may be first mentioned the Elbe, which rises in the S. of Bohemia, and pervades the duchy of Magdeburgh. The Spree, which passes by Berlin, falls into the Havel, a tributary of the Elbe. The Oder, the Viadrus of the ancients, may be regarded as a river entirely Prussian : it rises in the mountains of Moravia, and, after watering Silesia, Brandenburg, and Pomerania, joins the Baltic, after a course of about 350 miles. Next appears another noble stream, the Vistula, which, rising in the Carpathian mountains, passes Warsaw, and joins the sea near Dantzick, after a circuit of about 450 miles. The Pregel, passing by Konigsberg, springs from some lakes and marshes in Prussian Poland ; and the Memel, a superior river, now forms in part the Prussian boundary on the east.

LAKEs.] The lakes in the Prussian dominions are numerous, especially in the eastern part, where among others may be mentioned the Spelding See, which, with its creeks, extends more than twenty British miles in every direction. That region contains many other lakes, which supply the sources of the river Pregel. At their estuaries the rivers Oder, Vistula, and Memel, present singular inland sheets of water, in the German language called *Haffs* ; that of the Oder being styled *Grass Haff* ; that of the Vistula, *Frisch Haff* (with another inland creek called the lake of *Drausen*) ; and that of the Memel, *Curisch Haff*. The *Frisch Haff* is about seventy miles in length, and from three to ten miles broad, being separated from the Baltic by a long slip of land, said to have been thrown up by the tem-

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pests and waves about the year 1190. This lake, or bay, is of small depth, and will not admit vessels of much burthen \*.

The Curisch Haff, so called from its situation in the ancient duchy of Courland, is about 60 British miles in length, and about 30 in its greatest breadth. A similar ridge of land divides it from the Baltic; and it is full of dangerous shelves, and infested by frequent storms.

**MOUNTAINS.]** Magdeburg, Brandenburg, Pomerania, Prussia, and Poland, are in general level countries; and the only mountains in the Prussian dominions are those of Silesia. The mountains in the S. and W. of this province may be regarded as a northern branch of the Carpathian chain, which itself forms the most southern boundary. This branch extends from Jablunka S.E. to Friedberg in Upper Lusatia, N.W. near 200 British miles in length, and is called Sudetische Gebirge, or the Sudetic mountains. In the north-western parts of Silesia are also detached mountains of considerable height †, as the Spitzberg and Gratzberg. Their precise height seems not to be ascertained, yet they may safely be concluded to yield greatly to the Carpathian chain, an account of which will be found in the description of the Austrian dominions.

**FORESTS.]** Few parts of the Prussian kingdom are destitute of woods and forests, which particularly abound in Prussia Proper, and in the recent Polish acquisitions. Towards Hungary, Silesia presents a continuation of thick forests, which conspire with the elevated mountains to form an impenetrable barrier.

**BOTANY.]** The indigenous vegetables of the Prussian dominions have hitherto been viewed in only a very cursory manner. Among these there do not seem to be any which have not already been sufficiently noticed in the preceding accounts of Britain and Austria. The mountainous ridges of Prussia being few, and of little importance, there is in consequence a great deficiency of alpine plants, the prevailing vegetables being those that inhabit level and sandy districts. Tobacco, originally a native of America, and probably also of the east, having been long cultivated in Prussia, has at length established itself in the soil, and is found in the ploughed fields and hedges as a common weed.

**ZOOLOGY.]** The breeds of horses and cattle seem not to have impressed travellers with any distinction from those of the adjacent countries; and few parts are calculated for excellent breeds of sheep. The urus, or large and ferocious wild cattle of Lithuania, have also appeared in Prussia Proper, but the race seems nearly extinct. One of its chief haunts was the forest of Masavia, not far from Warsaw.

**MINERALOGY.]** The mineralogy of the Prussian dominions will not afford an extensive theme. Sand and plains rarely contain minerals, and even the mountains of Silesia boast of few hidden treasures. Yet in the southern districts of that province there were formerly mines of gold and silver, but the produce did not defray the expence. Mines of copper and lead, however, still exist, and there are considerable founderies of iron. Agates, jaspers, and rock crystal, are also found in the Silesian mountains. Coal, a more useful mineral, occurs in various parts of Silesia, and the level districts sometimes offer good peat moors.

But the most distinguished and peculiar mineral production of Prussia is amber, which is chiefly found on the Samland shore of the Baltic, near Pillau, on a neck of land formed by the Frisch Haff, which seems to have been the chief seat of this mineral from the earliest ages. It is found at the depth of about 100 feet, reposing on wood coal, in lumps of various sizes,

\* Busching, iii. 10.

† Ib. vi. 214.

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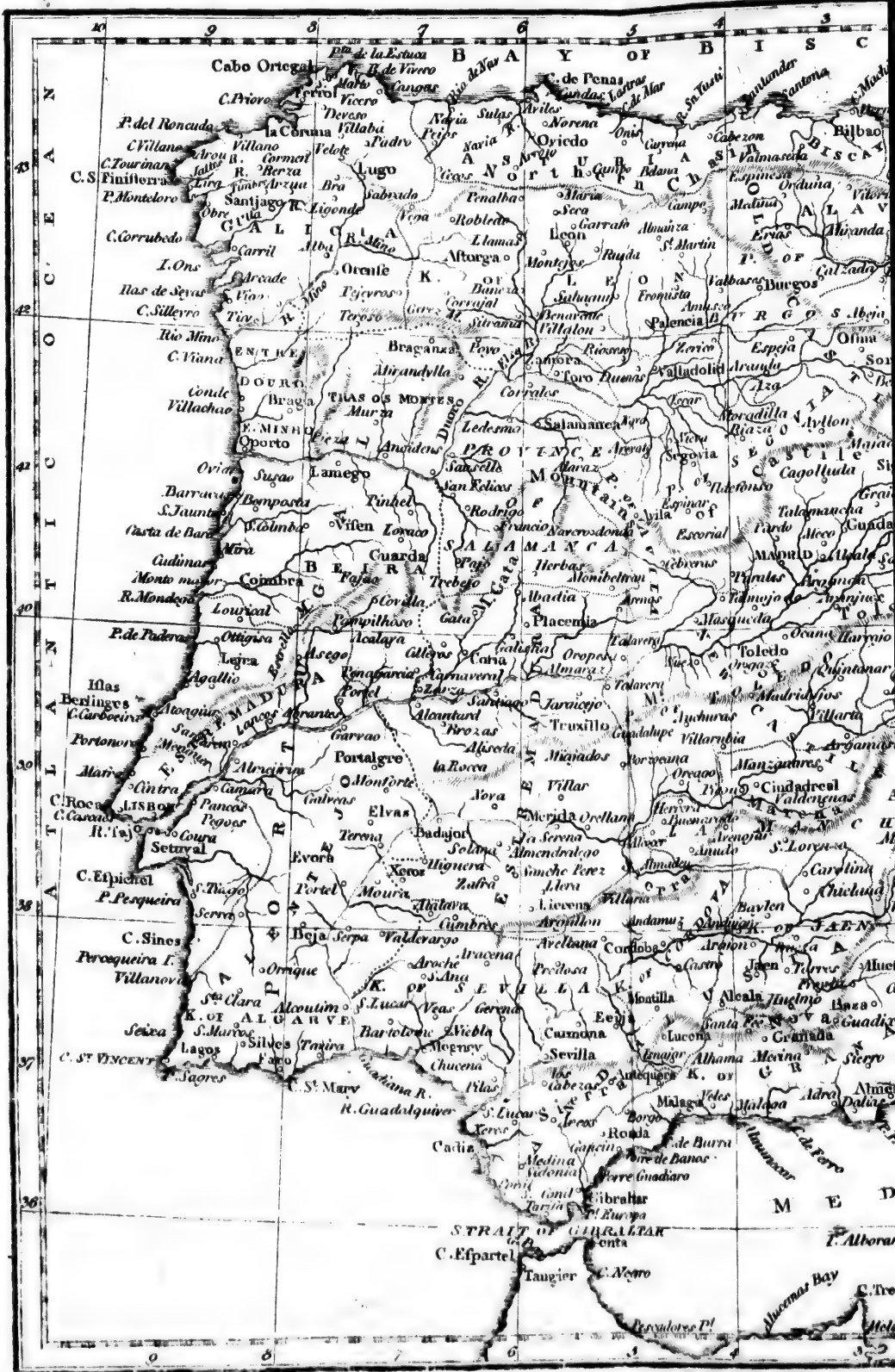
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## PRUSSIA.

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some five pounds in weight, and is often washed on shore by tempests. It adds about 5000*l.* yearly to the royal revenue.

MINERAL WATERS.] Silesia presents one spring of hot water at Warmbrun, near Hirschberg, which is believed to be the only mineral water worth notice in the Prussian dominions.

NATURAL CURIOSITIES.] The Sudetic chain of mountains has been little explored, and the level parts of the Prussian dominions can, of course, afford few objects of natural curiosity, if we except the mines of amber above mentioned.

## SPAIN.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs.—Modern Divisions,—and Antiquities.*

NAMES.] **T**HOUGH Spain appear to have been known to the Phœnicians, who imported from it large quantities of silver near 1000 years before the birth of Christ, and their Tarish to have been the little isle of Tartessus near Gades, yet it seems hardly to have been disclosed to the Greeks in the time of Herodotus. When the Greeks established a colony at Marseilles, they must, not long after, have discovered the northern part of this fertile region; which, from the noble river Iberus, or Ebro, they called Iberia; and, from its extreme situation in the west, it was also styled Hesperia. The Romans, probably from a native term, have fixed and handed down *Hispania*; which has been variously adapted to the idiom of modern languages.

EXTENT.] Spain lies between the 36th and 44th degrees of north latitude; and its western extremity is about 9° in longitude W. from London. The greatest length W. to E. is about 600 miles; the breadth N. to S. more than 500; thus forming almost a compact square (if we include Portugal in this general view of the country), and surrounded on all sides by the sea, except where the Pyrenean chain forms a grand natural barrier against France\*. But as the present estimate must exclude Portugal, which is reserved for another article, it may be observed, that the boundaries betwixt these two kingdoms depend on artificial conventions, and not on rivers or mountains, or other remarkable features of separation. Spain is supposed to contain about 148,000 square miles; which, estimating the population at 11,000,000, yield 74 persons to the mile square.

ORIGINAL POPULATION.] The original population of Spain seems to have consisted of Celts from Gaul, and of Moors, Mauritani, from Africa; but the latter, a more warlike race, expelled the former, and even passed into Aquitain in France. After the German Gauls had colonized the

\* The river Bidasoa forms the W. boundary, and near its mouth is the isle of Phœnians. Irun, near the Bidasoa, is the last town in Spain. Dillon, 183.

south of modern France, where they were the Galli Braccati of antiquity, they began to make expeditions into Spain, and seized the region to the N.E., bejoming the Celtiberi of classical geography. Hence the names of rivers and mountains in Spain rarely display a Celtic origin, being often African, and unlike those to be found in other parts of Europe, though recorded many centuries before the arrival of the Mahometans; and often Gothic, though mentioned before the Gothic invasion in the fifth century. It is probable that the African settlers were not a little assisted in the expulsion of the primeval Celts by the Phœnicians, and afterwards by the Carthaginians, whence the latter maintained such sway in distant parts of this country. But the records of Punic history being lost, we must be contented to begin with the African colony; which was succeeded, probably about 150 years before the Christian æra, by the incursions and settlement of the Celtiberi, and other Gaulic colonies, who were only styled Celts, as having passed from Celtic Gaul. Towards the east must be added large colonies of Carthaginians, and afterwards of Romans; for this country, which rivalled Italy in soil and climate, invited an unusual number of the latter, and produced many classical authors. From its natural situation, Spain has derived a greater mixture of inhabitants than perhaps any other European country. In the fifth century it was conquered by the Vandals; but, being afterwards weakened by their settlements in Africa, they were subdued by the Visigoths, who founded the modern kingdom of Spain, and from whom the more ancient families still pretend to derive their origin. The Mahometan Moors having been expelled, they must not be considered in the estimate, though a few families may be of Arabian extract: and the modern Spaniards may be considered as descended from the African Iberians, the Celtiberians, or German Gauls, the Romans, and the Visigoths.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of Spain is also very various. Little is known till the Roman conquest, when Spain was divided into three provinces, *Tarraconensis*, or the N.E. half of Spain; *Bœtica*, or *Betica* in the S.; and *Lusitania* on the west, extending from the river *Duro* in modern Portugal on the north, to the present boundary of that kingdom on the south. After the subjection by the Visigoths these divisions seem to have passed into oblivion; but the conquest by the Moors established a new and important distinction in Spanish geography, that of Christian and Mahometan Spain; and which is in some measure blended with the topic next to be considered.

**HISTORICAL EPOCHS.]** The chief historical epochs of Spain are;

1. The original population by the Africans and German Gauls.
2. The Carthaginian acquisitions in Spain.
3. The conquest by the Romans, who maintained possession for more than five centuries.
4. The subjection of Spain to the Vandals, about the year 415.
5. The conquest of Spain by the Visigoths under Euric, excepting Galicia, held by the Suevi, who had entered with the Vandals. The Galicians have to this day a distinct character of superior industry. In Euric, A. D. 472. commences the modern kingdom, and history of Spain.
6. The conquest by the Arabs, or Moors, which began A. D. 709, and soon extended over all Spain, except the mountains of Asturias, where king Pelagius maintained a confined dominion over that district and Biscay. His descendants fixed their royal residence at Oviedo, built in 761, and not only defended their small territory, which was naturally fortified with chains of mountains, but soon regained Galicia, and part

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of Leon and Castille. In 914, as the territory extended towards the south, the kings began to reside at Leon, and thence derived their title; to which, in the eleventh century, was added that of Castille. But the Moors must be regarded as the chief possessors of Spain till the middle of the thirteenth century.

7. The Moorish settlements in Spain were conducted by governors appointed by the chalifs, till A. D. 756, when Abdoulrahman seized the sceptre of Spain, and became the Moorish king of Cordova, and first chalif in the west. His successors continued to display great wealth and power; and under their sway the commerce of Spain became very extensive\*. This dynasty continued till A. D. 1038, when the Spanish chalifate expired, and the Moorish governors of several provinces usurped the royal style, in Cordova, Seville, Valentia, and Granada; who nevertheless rivalled the small Christian kingdoms of Spain.

8. The kingdoms of Castille and Leon sometimes fell to distinct heirs; and the historical confusion is increased by the small kingdom of Navarre, the capital of which was Pampalona, a royalty which commenced A. D. 857; by that of Arragon, A. D. 1035; and other subdivisions.

9. The reign of Alphonso the Wise, which began A. D. 1252, and which rivalled those of the Spanish chalifs in the protection afforded to the arts and sciences.

10. The conquest of the kingdom of Granada, the last of the Moorish royalties; and the junction of the important crowns of Castille and Arragon, in the persons of Ferdinand and Isabella.

11. The reign of Charles V., son of Philip of Austria, who married the heiress of Arragon and Castille, and established the Spanish monarchy on its present basis. The wealth of America, discovered in the reign of Ferdinand and Isabella, now began to impart exuberant supplies, and the power of Spain arrived at its zenith.

12. Acquisition of Portugal by Philip II. A. D. 1580.

13. The revolt of Portugal, under Philip IV., A. D. 1640; which has since existed as a separate kingdom, after having been subject to the Spaniards for sixty years.

14. The termination of the Austrian dynasty by the death of Charles II. Nov. 1, 1700; and the accession of the House of Bourbon; since which no epoch of singular consequence has arisen.

DIVISIONS.] The most recent subdivisions of Spain are into the following provinces:

|                                               |   |                                                      |
|-----------------------------------------------|---|------------------------------------------------------|
| On the Bay of Biscay —                        | { | 1. Galicia.                                          |
|                                               |   | 2. Asturias, including Oviedo and Santillana.        |
| On the French frontier —                      | { | 3. Biscay, including Biscay, Guipuzcoa and Alava.    |
|                                               |   | 4. Navarre.                                          |
| On the Mediterranean coast                    | { | 5. Arragon.                                          |
|                                               |   | 6. Catalonia.                                        |
| On the entrance to the Straits of Gibraltar — | { | 7. Valencia.                                         |
|                                               |   | 8. Murcia.                                           |
|                                               |   | 9. Granada.                                          |
|                                               |   | 10. Andalusia, including Seville, Cordova, and Jaen. |

\* Hist. de l'Afrique et de l'Espagne sous la Domination des Arabes, par M. Cardonne. Paris, 1765, 3 vols. 12mo.

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|------------------------------|---|-------------------------------------------------------------------------------------|
| On the frontiers of Portugal | { | 11. Estremadura.                                                                    |
|                              |   | 12. Leon, including Leon, Palencia, Zamora, and Salamanca.                          |
|                              |   | 13. Old Castille, including Burgos, Avila, and Segovia.                             |
| Midland — —                  | { | 14. New Castille, including Toledo or Algarvia, Cuenca or La Sierra, and La Mancha. |

ANTIQUITIES.] Of the first epochs it can hardly be supposed that any remains should exist, except a few tumuli, and other rude monuments. Nor are there any certain relics of the Carthaginians in Spain, except coins, which have been found in considerable numbers.

The Roman antiquities are, on the contrary, so numerous, that to enter into details on the subject would be prolix, and foreign to the nature of this work. The aqueduct at Segovia is one of the noblest of the Roman edifices\*. Morviedo, the ancient Saguntum, presents many curious remains of antiquity. Tarragona, the ancient Tarraco, also contains several interesting monuments.

The Visigothic kings have left few relics, except their coins, which are struck in gold; a metal then unknown to the other European mints, and seemingly native. The churches, &c. of that period were probably destroyed by the Moorish conquest.

Numerous and splendid are the monuments of the Moors in Spain. The mosque at Cordova was begun by Abdoulrahman, the first chalif. The second chalif of that name reared the walls of Seville. But these princes were far exceeded in magnificence by Abdoulrahman III., who built a town three miles from Cordova, which he called Zehra, after the name of one of his female favourites; and ordered a palace to be constructed by the most skilful architects of Constantinople, then the chief abode of the arts and sciences (A. D. 950)†. In this palace were reckoned 1014 columns of African and Spanish marbles: while Italy had supplied 19, and the Greek emperor had transmitted 140 of surprising beauty. The hall was decorated with marble and massy gold; and in the midst of the ceiling was hung the famous pearl which the emperor Leo had sent to the chalif. The palace of Zehra appears to have been annihilated in the barbarous and fanatic wars of the middle ages: and Granada, the last Moorish kingdom, having been subdued after the arts and sciences began to revive, it is natural there to expect the best preserved remains of Moorsque antiquity. Nor will their Alhambra disappoint this expectation, as the reader may judge from Mr. Townsend's description:

"You enter first into an oblong court of 150 feet by 90, with a basin of water in the midst, of 100 feet in length, encompassed by a flower border. At each end is a colonade. From hence you pass into the court of the lions, so called because the fountain in the middle is supported by thirteen lions. It is adorned with a colonade of 140 marble pillars. The royal bedchamber has two alcoves, adorned with columns, and a fountain between them, in the middle of the room. Adjoining to this are two hot baths. The great hall is about 40 feet square, and 60 in height, with eight windows and two doors, all in deep recesses. Between this and the oblong court is a gallery of 90 feet by 16. All these lower apartments have fountains, and are paved either with tiles or marble,

\* Townsend, vol. ii. p. 113.

† Cordoue, *ubi supra*.

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in chequers. The idea of the ceilings is evidently taken from *stalactites*, or drop-stones, found in the roofs of natural caverns. The ornaments of the friezes are arabesque, and perfectly accord with the Arabic inscriptions, which are here suited to the purpose for which each apartment was designed." Above is a suite of elegant apartments for the winter. This edifice was finished A. D. 1336.

The Christian antiquities of the middle ages consist of numerous churches, castles, and monasteries, as usual in other European countries.

## CHAPTER II.

## POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Population.—Colonies.—Army.—Navy.—Revenues.—Political Importance and Relations.*

**RELIGION.]** THE religion of Spain is the Roman Catholic, which in this country and Portugal has been carried to a pitch of fanaticism unknown to the Italian states, or even to the papal territory. The inquisition has, in these unhappy kingdoms, been invested with exorbitant power, and has produced the most ruinous effects, and though the evil has been recently subdued in a considerable degree, one fanatic reign would suffice to revive it.

**ECCLESIASTICAL GEOGRAPHY.]** According to the returns made to the government the Spanish clergy stand as follows :

|                                                      |   |   |   |         |
|------------------------------------------------------|---|---|---|---------|
| Parochial clergy, called curas                       | — | — | — | 16,689  |
| Assistants, called tenientes curas                   | — | — | — | 5,771   |
| Sacristans or Sextons                                | — | — | — | 10,873  |
| Acolitos, to assist at the altar                     | — | — | — | 5,503   |
| Ordinados de patrimonio, having a patrimony of three | } | — | — | 13,244  |
| reals a day                                          |   |   |   |         |
| Ordinados de menores, with inferior ecclesiastical   | } | — | — | 10,744  |
| orders                                               |   |   |   |         |
| Beneficiados, or canons of cathedrals, and other     | } | — | — | 23,692  |
| beneficiaries                                        |   |   |   |         |
| Monks                                                | — | — | — | 61,617  |
| Nuns                                                 | — | — | — | 32,500  |
| Beatas                                               | — | — | — | 1,130   |
| Syndics, to collect for the mendicants               | — | — | — | 4,127   |
| Inquisitors                                          | — | — | — | 2,705   |
|                                                      |   |   |   | <hr/>   |
|                                                      |   |   |   | 118,625 |

The archbishoprics are eight : bishoprics forty-six. The most opulent see is that of Toledo, which is supposed to yield annually about 90,000l\*. The Mozarabic missal, composed by St. Isidore for the Gothic church, after the conversion from Arianism to the Catholic faith, continued to be used in Spain till the Moors were subdued, when the Roman form was introduced.

**GOVERNMENT.]** The government of Spain is well known to be despotic, the states or cortes having hardly been assembled since the time of

\* Townsend, L. 311.

Charles V. But the despotism of the monarchy is here balanced by the power of the church, to which the nobles are submissive devotees. It is also tempered by many councils, who are responsible for any unwise or unsuccessful measures. The chief councils in Spain are: 1. That of dispatches, called also the *junto* or cabinet council, being composed of the king and his ministers of state. 2. The council of state, in which the king presides, and of which the archbishop of Toledo is always a member. 3. The royal council of finances, called the *Hazienda*. 4. The supreme council of war. 5. The supreme council of Castille. 6. The supreme council of Arragon. 7. The supreme council of the inquisition. 8. The royal council of the orders of knighthood. 9. The royal council of the Indies. 10. That of the *Crusada*, composed of a commissary general, a member of the council of Castille, and another of that of Arragon, who arrange the subsidies to be granted by the clergy, under the pretext of war against the infidels. The *grandees* of the kingdom, who were formerly styled the rich men, have several privileges; among which an important one in their eyes is that of wearing their hats in the royal presence, which is however never done except at the nod of the sovereign.

**LAWS.]** The laws of Spain are contained in several ancient codes; and recourse is also had to the civil and canon law. The *Escribanos* are numerous, and instead of explaining the codes, often impede the administration of justice. Mistaken mercy frequently retains criminals in long duration, so that when they are executed their offence is forgotten, and the example of punishment become inefficacious.

**POPULATION.]** The population of this kingdom is computed at 11,000,000 or 74 to a square mile; while France yields 174, and England 169: nay the kingdom of Naples is computed at 201. This striking defect of population has deservedly excited attention; and among other reasons may be numbered the expulsion of the Jews after the conquest of Granada; that of the Moors by Philip III.; the contagious fevers frequent in the southern provinces; the incessant intestine wars, for seven centuries carried on against the Moors; the emigrations to America, and the vast numbers of unmarried clergy and monks.

In the year 1787, the population of Spain was thus arranged\*:

|                 |   |   |   |           |
|-----------------|---|---|---|-----------|
| Males unmarried | — | — | — | 2,926,229 |
| Females ditto   | — | — | — | 2,753,224 |
| Married men     | — | — | — | 1,947,165 |
| Married women   | — | — | — | 1,943,496 |
| Widows          | — | — | — | 462,258   |

10,268,150

Exclusive of the clergy, who are above enumerated, the numbers of each rank were thus calculated†:

|                                 |   |   |   |         |
|---------------------------------|---|---|---|---------|
| Men servants— <i>Criados</i>    | — | — | — | 280,093 |
| Day labourers— <i>Jomaleros</i> | — | — | — | 964,571 |
| Peasants— <i>Labradores</i>     | — | — | — | 917,197 |
| Artisans                        | — | — | — | 270,989 |
| Manufacturers                   | — | — | — | 39,750  |
| Merchants                       | — | — | — | 34,339  |
| Knights— <i>Hidalgos</i>        | — | — | — | 480,586 |

"Of these last, four hundred and one thousand and forty are in the provinces of the Asturias, Biscay, Galicia, and Leon."

\* Townsend, vol. ii. 219.

† Ibid. 214.

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**COLONIES.]** After the immortal discoveries of Christoval Colon, called by writers in Latin Christopher Columbus, the Spanish colonies soon became numerous and extensive, in the West Indies, South America, and various isles in the Pacific Ocean. No nation, except the English, can in this respect rival Spain. But the superior advantages of England, in religious and political freedom, have soon replaced the population thus withdrawn, while to Spain the wound has been incurable, as the causes of depopulation have always increased.

**ARMY.]** The Spanish armies, instead of carrying terror even into the bravest countries of Europe, as they did two centuries ago, are now neither distinguished by number, nor by discipline; the royal treasury being so much impoverished, that a large force cannot be maintained. In peace it is computed at about 60,000: but in war the number might be swelled to a great amount, by a popular monarch and an ample revenue. Of late Spain has paid considerable attention to her navy, which has however been crippled in the recent warfare with England. The ships of the line can scarcely now be computed at less than fifty.

**REVENUES.]** The revenue of Spain may be calculated, as is believed, at five millions and a half sterling money; so that each person pays ten shillings to government for protection. In France, under the old government, each person paid near twenty shillings: in England at present sixty shillings. The expenditure now equals or exceeds the income; but the national debt is a mere trifle. The best judges of the subject infer that the colonies yield no direct revenue to Spain, it being consumed in the expences of the government of those distant regions.

**POLITICAL IMPORTANCE AND RELATIONS.]** The political importance and relations of Spain were formerly deeply impressed on most regions of the globe. But, exhausted by idle wars of ambition or avarice, this fertile kingdom has become almost a cypher in European policy. Setting aside Portugal, the position of Spain secures her from any invasion, except on the side of France; and it becomes therefore the insuperable interest of this exhausted state to cultivate amity with her powerful neighbour, which must maintain an unavoidable and supreme ascendant, from geographic position and relative force. On the other hand the distance and importance of the Spanish colonies render a war with England the greatest calamity that can befall them, as that power, enjoying the unlimited dominion of the ocean, can inflict dreadful wounds on the commerce and colonies of Spain. Such seem to be the sole hinges of Spanish polity, though ancient fame, and connexions with the royal families of more potent states, secure some degree of deference to her councils and mediations.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Education. — Universities. Cities and Towns. — Edifices. — Roads. — Inland Navigation. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** IN speaking of the religion of Spain, one of the most striking of the national customs and manners is the common practice of adultery under the mask of religion. This disgrace, which is confined to the catholic system, is

said to have been transplanted from Italy. But the Italian *cicisbei* are more commonly gentlemen; while in Spain they are monks and ecclesiastics; and the vice becomes more flagrant, as it is practised by those very men who ought to exhibit examples of pure morality.

Exclusive of this vice, the Spanish character is highly respectable for integrity and a long train of virtues. Conscious of an upright and noble mind, the respect which a Spaniard would pay to those qualities in others, is often centred in himself, as he is intimately sensible that he possesses them. This self-respect is nearly allied to pride; but it is the pride of virtue, which certainly ought not to humble itself before vice and folly. Temperance is a virtue which the Spaniard shares in common with other southern nations. In these countries the body is so much exhausted by the influence of heat, that the siesta, or short sleep in the middle of the day, becomes a necessary resource of nature, and is by habit continued even in the winter.

The chief defect in the character of the Spanish nobility and gentry is, their aversion to agriculture and commerce. Instead of those beautiful villas, and opulent farms, which enrich the whole extent of England, the Spanish architecture is almost confined to the capital, and a few other cities and towns; and till farm-houses are scattered over the kingdom, it will be absolutely impossible for agriculture to flourish in Spain. To import German colonies, as has been done in the Sierra Morena, is to begin at the wrong end, and to suppose that the poor can set an example to the rich. An intimate connexion and intermixture of all ranks of men, and their mutual respect for each other, form a liberal source of the wealth and power of the British dominions; but Spain, perhaps, despises the example of heretics.

Since the accession of the house of Bourbon, a slight shade of French manners has been blended with the Spanish gravity. But fashions have here little sway; and the prohibition of slouched hats and long cloaks led to a serious insurrection. The houses of the great are large and capacious; but the cottages and inns are, on the contrary, miserable. The dress and manners of the lower classes vary much in different provinces, and for a living picture of them, the reader may consult the immortal work of Cervantes.

The amusements of people of rank chiefly consist in dancing and cards; but the combats with bulls in the amphitheatres have justly been regarded as the most striking feature of Spanish and Portuguese manners. That such spectacles tend to familiarise the people with bloodshed, seems an idle theory, unwarranted by facts. Modern Italy has no gladiators, but numerous assassins: ancient Rome had scarcely one assassin, but whole armies of gladiators.

The chief actors in the bull-feasts are the picadors, who are mounted on horseback and armed with lances, and the chulos on foot, who relieve and sustain the former; but the chief personage is the matador, who enters amid the profound silence of the whole assembly, and coolly dispatches the furious animal by a blow where the spinal marrow joins the head. The death is bloodless and instantaneous, and deserves imitation, as humanity would wish to save pain to the animals slaughtered for food. Sometimes the bull is pierced in various parts with lances, to which squibs are fastened, which being set on fire, the maddened animal stands pawing the ground, while he draws in and exhales volumes of smoke: sometimes an American is introduced, who, after the manner of hunting the wild bull in his own country, throws a rope round the horns, and entangles the quadruped as in a net, then kills him with perfect safety.

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**LANGUAGE.]** The Spanish language is one of the three great southern dialects which spring from the Roman; but many of the words become difficult to the French or Italian student, because they are derived from the Arabic, used by the Moors, who for seven centuries held dominion in this country. The speech is grave, sonorous, and of exquisite melody, containing much of the slow and formal manner of the Orientals, who seem sensible that the power of speech is a privilege.

**LITERATURE.]** The literature of Spain is highly respectable, though little known to the other countries of Europe since the decline of Spanish power.

Among the fathers of literature in this country must be named Isidore of Seville, many of whose works are extant, and inferior in merit to few of that epoch; successive writers may be traced to the eleventh century, when they became numerous: but before briefly mentioning some Spanish authors posterior to that period, it will be proper to recollect, that Arabian learning flourished under the califs of Cordova, and produced many illustrious names well known to the Oriental scholar, as Aben Roe, or Averroes, Aben Zoar, Rhazes, &c. Many Jewish authors also flourished in this country.

In the eleventh century, as already mentioned, the Spanish authors began to increase in number, and the native language begins to appear. This was the epoch of the famous *Cid* or *lord*, Roderic de Bivar, whose illustrious actions against the Moors were celebrated in contemporary songs, and by a long poem, written in the succeeding century. After the thirteenth century, it would be idle to attempt to enumerate the crowd of Spanish authors, among which are Alphonso the Wise, who wrote the *Libro del Tesoro*, a treatise on the three parts of philosophy, rational, physical, and moral; and at whose command were compiled the famous Alphonso tables of astronomy.

Since the year 1500, scarcely can a department of literature be mentioned, in which the Spaniards have not excelled; if we except natural philosophy, the progress of which has been checked by the inquisition. It would be unnecessary to repeat the well known names of Cervantes, Quevedo, Lopez de Vega, or other authors, whose works are known to all Europe.

**UNIVERSITIES.]** The universities, or rather academies, in Spain, are computed at upwards of twenty: of which the most noted is that of Salamanca, founded in the year 1200 by Alphonso IX. king of Leon, and afterwards regulated by Alphonso the Wise. The students have, at former periods, been computed at 16,000; and, even now the reign of Aristotle in logic and natural philosophy, and of Thomas Aquinas in theology, continues unviolated, so that a student of the year 1800 may aspire to as much ignorance as one of the year 1300. In 1785 the number of students was computed at 1909\*. The same antiquated teachers are received with implicit faith in the other universities, so that a more liberal education at school must be here obliterated.

**CITIES AND TOWNS.]** As a proper introduction to a brief account of the chief cities and towns of Spain, the following estimate is subjoined from an accurate author †.

|                      |        |
|----------------------|--------|
| Cities—Ciudades      | 145    |
| Borough towns—Villas | 4,572  |
| Villages—Lugones     | 12,732 |
| Hamlets—Aldeas       | 1,058  |

\* Townsend, ii. 79.

† Ibid. ii. 215.



|                                         |        |
|-----------------------------------------|--------|
| Granjas—Farm houses                     | 873    |
| Cotos redondas—Parks or wastes inclosed | 611    |
| Depopulated towns                       | 1,511  |
| Parishes                                | 18,972 |
| Convents                                | 8,932  |

Madrid, the royal residence, while Seville is esteemed the capital of Spain, is of recent fame. Philip II. first established his court at Madrid, and the nobility, in consequence, erecting numerous palaces, this formerly obscure town began to assume an air of grandeur. The central position seems the chief advantage, for the environs can boast of little beauty or variety. The river Mançenares is in winter a torrent, but dry in summer: over it is an elegant bridge, which occasioned a sarcastic remark that the bridge should be sold in order to purchase water. This metropolis contains 13 parishes, 7,938 houses, 32,745 families, amounting to a population of 147,354\*. The convents are 66; and there are fifteen gates of granite, many of which are elegant. The chief is the Puerta de Alcalá, of three arches, the central being 70 feet in height. The churches and monasteries contain many noble paintings, and the royal palaces display considerable magnificence. The new palace presents four fronts of 470 feet in length, and 100 in height, enriched with numerous pillars and pilasters. The foundation was laid in 1737, three years after the ancient palace had fallen a sacrifice to the flames. The audience-chamber is deservedly admired, being a double cube of 90 feet, hung with crimson velvet, and adorned with a sumptuous canopy and painted ceiling. The prado is a spacious course, in which the great display their elegant equipages.

At Madrid are the royal manufactures of china, saltpetre, &c. but the city has little trade, and chiefly prospers by the presence of the court, and confluence of the great, whose rents are remitted to the capital to the great injury of the kingdom at large.

Next in real importance to Madrid are the principal sea-ports, which are enriched by commerce; while the cities in the interior decline from the want of agriculture and inland navigation. The commerce of America formerly centered at Seville, but was afterwards removed to Cadiz, a city which is supposed to contain about 70,000 souls†. The two cathedrals are grand; and there is an hospital which will contain 6000 patients. The hospicio, or general workhouse, is an interesting establishment, containing more than 800 poor of all ages, who are here trained to industry.

Malaga is esteemed the second port in the kingdom, and is also celebrated for excellent wines, the rich Malaga, the mountain, so called from the hills which produce the grape, and the tent or tinno, so styled from its deep red tinge. Malaga stands in a valley surrounded with hills, the houses high, the streets narrow and dirty. Inhabitants about 40,000: the cathedral, begun in 1528, is not yet finished; the convent are 25, but of small account‡. This city swarms with thieves and mendicants. The municipal government rests with a corregidor or mayor appointed by the crown; but the regidores or aldermen are hereditary. There are also two syndicos or tribunes to protect the people.

Towards the S.E. is the third most considerable port of Spain, the of Barcelona§. The streets are narrow and crooked; the churches rather rich than beautiful. The hospicio contains about 1400 indigent poor, and there is a house of correction which sometimes includes even

\* Townsend, i. 250. † Ibid. ib. 374. ‡ Ibid. iii. 10, &c. § Ibid. i. 106.



women of rank, if guilty of drunkenness or other low vices. The inhabitants of Barcelona are computed at more than 100,000; and industry prevails here, being a native virtue of the Catalonians: the chief manufactures are silk, cotton, and wool, excellent fire-arms and cutlery; the chief imports, corn, fish, and woollen goods: exports, wine, brandy, cloth, and leather. During peace it is supposed that 1000 vessels enter this port; of which half are Spanish, 120 French, 100 English, and 60 Danes. Barcelona stands in a plain open to the S.E. but protected by hills on the north and west, being a healthy and delightful residence; but the east wind commonly brings fog, and produces such irritability that the best friends at such periods rather wish to avoid each other.

Along the northern shores of Spain there are few harbours of any note. The most remarkable is that of Corunna, by our mariners styled the Groyne. The harbour is large and safe; the town of a circular form; but the poverty of the surrounding province of Galicia affords few resources for trade; and many of the natives are dispersed over Spain and even Portugal, as day labourers and servants, being universally esteemed for their probity and fidelity.

The chief inland cities of Spain shall be briefly reviewed, beginning from the north. Oviedo and Leon are now inconsiderable, and only boast their ancient fame, as successive capitals of Spanish royalty, when struggling against the Moors. The cathedral at Leon is admired for its elegant lightness.

Pampalona the capital of Navarre, is more remarkable for the learning of some of its prelates than for any other circumstance. The inhabitants are about 5000. Burgos, the see of an archbishop, retains vestiges of former opulence. Valladolid, in the same province of old Castille, contains some woollen manufactures, and many goldsmiths and jewellers.

Saragossa, the chief town of Arragon, is the ancient Cæsarea Augusta, and displays many rich churches and convents\*. The university contains about 2000 students. There are no manufactures: though it is to be hoped that these will be encouraged by the great canal of Arragon, projected, like other Spanish works, on a most magnificent scale, and of the length of about 250 English miles, from the mouth of the Ebro to St. Ander, in the western extremity of Biscay; thus uniting the Mediterranean with the Atlantic.

On the south of Madrid first occurs Toledo, a city of considerable fame, and remarkable situation; for the river Tajo, or Tagus, passing between two mountains of granite, almost surrounds one of them, on which is placed the city, arising like a cone†. Toledo was formerly the royal residence; and contains a grand palace, built in the reign of Charles V. The manufacture of arms was long famous, and has been recently revived. The archbishopric is computed at 90,000l. annually; but the inhabitants, once calculated at 200,000, are now reduced to 25,000.

Badajoz, in Estremadura, is remarkable for its position on the very confines of Portugal, and is the see of a bishop. In the southern provinces appears Seville, famous till the year 1720, at the mart of American trade. The inhabitants are computed at 80,000; and the churches and convents are opulent and beautiful. The chief manufactures are silk, and recently snuffs (a royal monopoly), not only the common Spanish, but rappee, as it was found that the latter was smuggled from France. The tobacco

\* Townsend, i. 208.

† Ibid. i. 308.

employs 220 manufacturers, who are strictly examined and guarded. Seville is esteemed the chief city of Spain. Madrid being only a town distinguished by the royal residence\*.

Murcia, the capital of the province so called, is of considerable account, and situated in one of the most beautiful vales in Spain †. The inhabitants are probably about 60,000. There is a beautiful bridge over the Segura; and the cathedral is lofty, but cannot boast of internal opulence or beauty.

Granada has been long celebrated as the paradise of Spain, though the southern provinces be in general unhealthy. This city stands in a vale bounded by hills, beyond which to the south is the Sierra Nevada, so called because the mountains are covered with perpetual snow. The inhabitants are supposed to be 80,000; the Moorish palace here has been already described; and adjoining is a palace erected by Charles V. The cathedral and convents contain excellent pictures by Spanish masters. The municipal government is in a corregidor and twenty-four regidores. There are beautiful public walks, and the environs are delightful and well cultivated ‡.

**EDIFICES.]** The most remarkable edifices of Spain are the cathedrals of the several sees, and the churches belonging to opulent convents. The houses of the nobility are confined, with few exceptions, to the capital and other cities, instead of adorning the country at large, as in England. The palace and monastery of the Escorial have been described at great length by many travellers. It is seated in a deep recess, at the foot of high mountains; and was built by that bigot Philip II. in the strange form of a gridiron, the instrument of the martyrdom of St. Lawrence, upon whose anniversary the Spaniards gained the victory of St. Quintin. The convent is 740 feet by 580; and the palace forms the handle of this imaginary gridiron. The paintings are excellent and numerous; and the vault containing the royal tombs is grand and impressive. But the palaces of Aranjuez and St. Ildefonso are greater favourites with the court. The gardens of the former, watered by the Tajo, are laid out in a just and natural taste. St. Ildefonso is a summer residence, exposed to the north. The Pardo, another palace, stands in the middle of a large forest.

**INLAND NAVIGATION.]** The inland navigations of Spain, though commenced upon united principles of grandeur and utility, have been permitted to languish through the want of resources, and the slow measures of the court, rather than by any indolence of the superintendants and labourers. The great canal of Arragon seems to remain in a state of imperfection, though we are told that two branches are completed from the Ebro towards Navarre, and have been attended with the most beneficial consequences. Another canal was to begin at Segovia, or

\* Dillon, 432. But the population of Madrid and Barcelona is far superior.

† Townsend, iii. 130.

‡ Gibraltar, so called from a Moorish or Arabic denomination, signifying the mountain of Tarik, who conducted the Moors into Spain, stands on the west side of a rocky mountain called Calpe by the ancients; and to the west of the town is a large bay. In 1469 it was taken from the Moors; and in 1704 fell into the hands of the English. The siege during the American war is of fresh and celebrated memory. The inhabitants of the town are about 5000; and the garrison generally amounts to as many. The number and strength of the military works, and the vast galleries opened in the calcareous rock, excite admiration. There is a stalactitic cave, that of St. Michael, and bones are found in the rock, which seem to have fallen into the cavities, where they are enveloped in the exuding petrefaction. The fortress, in the opinion of most military men, is absolutely impregnable.

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about 40 miles N. of Madrid, thence to extend to the bay of Biscay. This is termed the canal of Castille. The canal of Guadarama was conducted with more spirit, and is probably completed. It was to open near the Elicurial, and proceed south to the Tajo or Tagus.

MANUFACTURES AND COMMERCE.] The manufactures of Spain are considerably checked by the royal monopolies which extend to the following articles.

Broad cloth, at Guadalajara and Brihuega.  
China, at the palace of the Buen Retiro.  
Cards, at Madrid and Malaga.  
Glas, at St. Ildefonso.  
Paper, in Segovia.  
Pottery, at Talavera.  
Saltpetre, at Madrid and various other places.  
Stockings, at Valdemoro.  
Swords, at Toledo.  
Tapestry, at Madrid.  
Tissue, at Talavera.

The king has also the monopoly of brandy, gunpowder, lead, quick-silver, sealing-wax, salt, sulphur, and tobacco.

Many manufactures are however conducted in Spain with great spirit and assiduity; and any failure must not be imputed so much to the indolence of the people, as to the prejudices of the great and the inquisitorial power of the ecclesiastics, which cramps genius and invention of all kinds, and constrains the mind to the same perpetual circle. Spain supplies wines, oil, fruits, silk, leather, broad cloth, and other articles to many European countries; but her chief trade is with her own colonies in America. The soil of Spain is exuberant in the production of saltpetre; and the barilla, used in making glass, has been long celebrated.

In the year 1784 the exports from Spain to America were thus computed in pounds sterling \*.

|            | <i>Spanish produce.</i> | <i>Foreign produce.</i> | <i>Total produce.</i> |
|------------|-------------------------|-------------------------|-----------------------|
| Cadiz,     | 1,438,912               | 2,182,531               | 3,621,443             |
| Malaga,    | 196,379                 | 14,391                  | 210,680               |
| Seville,   | 62,713                  | 30,543                  | 93,256                |
| Barcelona, | 122,631                 | 21,240                  | 143,871               |
| Corunna,   | 64,575                  | 39,962                  | 104,537               |
| Santander, | 36,715                  | 90,173                  | 126,888               |
| Tortosa,   | 7,669                   | 289                     | 7,958                 |
| Canaries,  | 24,974                  |                         | 24,974                |
| Gijon,     | 4,281                   | 10,198                  | 14,471                |
|            | <u>£. 1,958,849</u>     | <u>£. 2,389,229</u>     | <u>£. 4,348,078</u>   |

The duties were computed at 170,800l.

The imports from America to Spain were, at the same time, thus estimated in the same money:

\* Townsend, li. 415.

| <i>In Money and Jewels.</i> |                     | <i>In Merchandise.</i> |
|-----------------------------|---------------------|------------------------|
| Cadiz,                      | 8,297,164           | 2,990,757              |
| Malaga,                     | —                   | 18,605                 |
| Barcelona,                  | 102,140             | 91,233                 |
| Corunna,                    | 741,283             | 90,001                 |
| Santander,                  | 40,843              | 100,974                |
| Canaries,                   | 109,807             | 52,366                 |
|                             | <u>£. 9,291,237</u> | <u>£. 3,343,936</u>    |

The whole imports therefore exceeded twelve millions and a half; the duty amounted to more than half a million.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE climate of Spain has been deservedly praised, as equal, if not superior to that of any country in Europe; but in the southern provinces the heat is insalubrious, and malignant fevers sometimes sweep off great numbers. The chains of mountains which pervade Spain at different intervals from E. to W., seem to temper the climate, and supply cooling breezes. In the south the sea breeze, beginning about nine in the morning, and continuing till five in the evening, agreeably diversifies the warmth of the summer; and in the northern provinces the severity of winter is allayed by the proximity of the ocean, which generally supplies gales rather humid than frosty.

**FACE OF THE COUNTRY.]** The face of the country is in most seasons delightful, abounding with excellent and fragrant pasturage, vineyards, and groves of orange trees; and the hills clothed with wild thyme and other odorous plants. The rivers and streams are numerous; and the chains of mountains afford a grand variety to the prospect.

**SOIL AND AGRICULTURE.]** The soil is generally light, and reposes on beds of gypsum, or plaster of Paris, itself an excellent manure. "The common course of husbandry \* about Barcelona begins with wheat, which being ripe in June, is immediately succeeded by Indian corn, hemp, millet, cabbage, kidney-beans, or lettuce. The second year these same crops succeed each other as before. The next year they take barley, beans, or vetches; which, coming off the ground before midsummer, are followed, as in the former years, by other crops, only changing them according to the season, so as to have on the same spot the greatest possible variety." Wheat produces ten for one; but in rainy seasons fifteen. Near Carthage the course is wheat, barley, and fallow †. For wheat they plough thrice, and sow from the middle of November to the begin-

\* Townsend, i. 179.

† Ibid. iii. 134.

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ning of December : in July they reap from ten to one hundred for one, as the season happens to be humid. The Huerta, or rich vale of Alicant, yields a perpetual succession of crops. Barley is sown in September, reaped in April, succeeded by maize, reaped in September ; and a mixed crop of esculents follow. Wheat is sown in November, and reaped in June, flax in September, pulled in May. In the vale of Valencia wheat yields from twenty to forty ; barley from eighteen to twenty-four ; oats from twenty to thirty ; maize one hundred ; rice forty. In the more southern provinces the land is almost equally fertile ; and the sugar-cane is cultivated with success near Granada. Agriculture is greatly impeded in Spain by the superior attention paid to the large flocks of sheep, which are authorized by a special code, the mesta, to travel from one province to another, as the season presents pasturage in the vales, or on the mountains. The Merino sheep, or flocks, thus privileged, are computed at 5,000,000 ; and one nobleman has sometimes 40,000. The fleece is esteemed doubled the value to that of other sheep ; but the checks given to agriculture by such privileges, unknown to all other countries, are incalculable.

RIVERS.] Among the chief rivers of Spain may be named the Ebro, which anciently conferred an appellation on the country. This noble stream rises in the mountains of Asturias, in a small vale E. of Reisona, and pursuing its course to the S.E. enters the Mediterranean sea, after having run about 380 G. miles. The other rivers running to the east are of less importance, as the Guadalaviar, the Xucar, and the Segura, which enlivens the fertile vales of Murcia. Towards the west occurs the Guadalquivier, the ancient Bætis, which gave name to the province. This river originates in the Sierra Morena, and flows into the gulph of Cadiz, after a course of near 300 G. miles. The Guadiana rises in the N. side of the Sierra Morena, according to Spanish authors, though the chief sources seem rather to be in the mountains of Toledo : it pursues a part of its course through Portugal, and falls into the gulph of Cadiz, after a circuit nearly equal to that of the Ebro. But the chief river of Spain and Portugal is the Tajo, or Tagus, which rises in the west of Arragon, near Albarracin, in a spring called Abrega\*, and holds a course of about 450 G. miles. The Douro springs near the ruins of ancient Numantia : and its course may be computed at 350 G. miles. The Minho rises in the mountains of Galicia ; and is more remarkable as forming a part of the boundary between that province and Portugal, than for the length of its circuit, which does not exceed 160 G. miles. Many other streams pervade the northern provinces, but not of sufficient importance to be here commemorated.

LAKES.] The lakes of Spain are so few, and of such small extent, that they scarcely deserve notice. There is a singular series of small lakes in the S.E. of New Castille, to which some assign the source of the Guadiana.

MOUNTAINS.] The Spanish mountains are arranged by nature in several distinct chains. The most northern is regarded as a continuation of the Pyrenees, passing on the S. of Biscay and the Asturias in Galicia. This chain is distinguished by different names, as the mountains of Biscay, the Sierra of Asturias, and the mountains of Mondonedo in Galicia. It must be here observed that the term *Sierra*, peculiar to Spain, implies a chain of mountains, whose successive peaks present the resemblance of a

\* Near the Sierra Blanca, esteemed the highest situation in Spain, as the Guadalaviar runs into the Mediterranean. Dillon, 208.

*saw*. The gypseous and argillaceous mountains of this country, rarely exhibiting any supreme elevation, like those in the granitic chains, naturally suggested this singular appellation.

The second chain of Spanish mountains extends from near Soria on the N.E. and pursues a S.W. direction towards Portugal. This chain is called that of Urbia or Guadarama; and also the *Montes Carpetanos* \*. The third is that of Toledo, running nearly parallel with the last. These two central chains seem to contain great quantities of granite.

Next towards the S. is the Sierra Morena, or Brown Mountains, which are followed by the most southern ridge, that of the Sierra Nevada.

One the east there is a considerable chain, which connects the two central ridges, and advances towards the Mediterranean in the north of Valencia. There are also several considerable ranges of hills in this part of the kingdom, generally running from N. to S.

A remarkable solitary mountain, not far from Barcelona, must not be omitted. At a distance Montserrat appears like a sugar loaf; but on a nearer approach seems jagged like a saw, with pyramidal rocks; it is composed of limestone and gravel united by calcareous cement: and is of such a height that from its summit may be discerned the islands of Majorca and Minorca, at the distance of fifty leagues †. Not far from Montserrat, near the village of Cardona, is a hill three miles in circumference, which is one mass of rock salt, used in the dry climate of Spain for vases, snuff-boxes, and trinkets, like our Derbyshire spar.

The Spanish side of the Pyrenees has not been accurately examined; and as the French mineralogists have amply illustrated the part belonging to France, an account of these mountains has been given in the description of that country. In the want of a general and scientific account of the Spanish mountains, a few notices must suffice, extracted from different parts of Townsend's travels. According to that intelligent observer the northern side of the Pyrenees is chiefly calcareous, surmounted with argillaceous schistus; but the southern is granite, and of course barren ‡. The hills to the south of Gerona are also granitic. The highest ridge in Spain, near Daroca, whence originate the Tago and Ebro, seems composed of argillaceous schistus and freestone, probably resting on granite §. Near Anchuela the mountains are limestone with shells; and sometimes contain beds of red gypsum with crystals of the same colour. In general gypsum is as abundant in Spain, as chalk is in England. The mountains on the north of Madrid, forming part of the central chain, are granite ||. Those to the north of Leon chiefly marble or limestone, on a basis of argillaceous schistus, rising in bold and rugged rocks which afforded a barrier to the remains of Spanish liberty. In returning towards the S., the soil of la Mancha is sandy, the rock gypsum. The higher regions of the Sierra Morena are granite: the lower argillaceous schistus with gypsum and limestone. The granite is of two kinds, the red and the white ¶.

Near Cordova the highest hills are covered with rounded masses of granite, grit, and limestone. Near Malaga are branches of the Sierra Nevada, or snowy chain, an appellation which might also be extended to the central range between Old and New Castille, which according to Mr. Townsend, might at some times be visible at the distance of 100

\* Dillon, p. 115, says the mountains dividing the two Castiles, are called those of Guadarama.

† Townsend, i. 189. ‡ i. 212. § i. 219. || ii. 236. i. 307. ¶ ii. 290. 297.



miles; these branches present limestone and marble, surmounted by argillaceous schistus. Near Alhama S.E. of the city of Granada, are round rocks, which on a basis of shingle or round gravel present sandstone with shells, surmounted with pudding-stone, but in general the rocks are gypseous, with strata of the same substance chrystallized. The S.E. part of Spain seems calcareous, and the cathedral of Murcia is built with a sort of limestone resembling the roe of fish. But near Cape de Gata the hills seem to have been volcanic, as French mineralogists have inferred from the singularity of its productions.

**FORESTS.]** Spain contains many forests, partly arising from the want of cultivation, partly reserved for the royal pleasures of the chace; as that of the Pardo, which extends near thirty miles in length; some of the forests are haunted by smugglers and banditti, who raise contributions from the unwary travellers; and even murders are not unfrequent.

**BOTANY.]** Although the great promontory west of the Pyrenean mountains is divided, by its political interests, into the independent governments of Spain and Portugal, yet the distribution of the different kinds of soil, and natural products, is so little conformable to the territorial division, that an account of the botany of either country must necessarily include the great outlines of the other; it will therefore save much repetition to unite the two kingdoms in a general sketch of the botany of the whole promontory.

Spain, including by this term the whole country west of the Pyrenees, may be divided according to its botany into the sea-shore; the high mountains, the lower ones; the arable lands, the grazing tracts and marshes along the rivers; and the vicinity of Lisbon and Oporto.

The sea shore of Spain presents fewer peculiarities than the interior; resembling for the most part in its vegetable productions the northern coasts of the Mediterranean: the flat sandy tracts are occupied by the sea daffodil, some coarse kinds of grass, and *falsola fativa*; of this last there are extensive plantations in the neighbourhood of Alicante and Barcelona, for the purpose of procuring from its ashes the Spanish barilla, an alkaline salt of considerable purity, of which some thousand tons are every year manufactured, partly for foreign commerce, and partly for the preparation of the fine Spanish soap. The rocks on the coast are chiefly calcareous, and abound with samphire, tree violet, tragacanth vetch, caper bush, and the celebrated esparto grass, which, on account of its extraordinary toughness, is used for making ropes, mats, chair bottoms, and, in short, all the articles included under the French term *sparterie*.

The high mountains of Spain being neither so lofty, nor in such large masses as those of Switzerland, are for the most part covered with snow only for a few weeks in the year; here therefore, and in the lower mountainous ridges that border the bay of Biscay, we find a number of plants familiar to the plains of the north of Europe; the finest timber trees in Spain are found in these elevated regions, and the English botanist might here almost think himself in his native country; the oak, the lime, the birch, the mountain ash, the yew, the beech, the larch, the holly, and the juniper, grow to a considerable size, and are the most characteristic of the vegetable productions.

The long ranges of moderate sized hills that occupy the greatest part of Spain, consist either of extensive arid tracts of sand, of arenaceous sandstone, and ferruginous rubble forming the heaths; of dry calcareous districts forming the sheep-walks; or of moist rough granitic and marble ridges, with but a shallow soil forming the woodlands.

The Spanish heaths are gayer and richer with plants than those of any other

other European country; in some parts are thick woods of the yew-leaved fir and stone pine, in others are scattered groves of cork trees; here the traveller is regaled with the fragrance of numberless aromatic plants, the mallich thyme; spike lavender; common and Spanish sage; and rosemary. The golden blossoms of the gorse, a plant chiefly found in England and Spain; and the crimson, flesh coloured, and snowy flowers of the arborescent heaths mutually heighten each other; the elegant lithospermum fruticosum entangles itself among thickets of dwarf myrtle, and every spot of sand or dry rock, forsaken by other vegetables, is adorned and perfumed by the cistus; of this plant there are no less than fourteen species natives of Spain; all of them eminently beautiful for their broad silken blossoms of pure white or yellow, with deep crimson eyes: the laurel leaved cistus, is most frequent in Old Castille, but the commonest of all is the gum cistus, a most elegant and fragrant shrub from six to seven feet high, which occupies whole miles of dry rock, and on this account forms a very peculiar feature in the scenery of Spain.

The sheep-walks are for the most part open downs with little shelter, except here and there a grove of chestnut trees, or ever-green oaks; the turf differs essentially from that of the English sheep-walks in containing very few species of grass, being chiefly composed of the smaller papilionaceous plants.

The woodlands of Spain demand particular notice, in an account of its vegetable productions; we find here none of that noon-day night of shade that spreads such an awful solemnity over the recesses of the German and English forests; the trees are neither so large, nor is their foliage so ample. Several of the calcareous summits are covered with chestnut trees and box, but the great mass of the woods consists of the ever-green sweet oak. This tree is about the size of a large pear tree, which it somewhat resembles in its manner of growth; its leaves are lanceolate, green above and hoary beneath, curled and rather scanty; it produces large crops of sweet acorns, which are extensively applied to the fattening of hogs, and the nourishment of the peasants. Intermixed with these are the wild olive, the kermes oak, walnut and carob tree; the almond fixes itself in the crevices of the rocks along with the sumach; the laurel, the bay, the laurustinus, and Portugal laurel, attain the height of small trees, and yield a cool and shady retreat even in the midst of a Spanish summer.

Where the ground is sufficiently deep and moist for cultivation and rich pasturage, a number of beautiful bulbous-rooted plants appear in the early autumn and spring, and give a peculiar gaiety at that time to the Spanish prospects; two species of asphodel may be said in a manner to overspread the whole country; many also of the following are scarcely less common; yellow amaryllis; jonquil; clustered hyacinth; dog's tooth violet; orange and martagon lily; and wild tulip.

The fallows and dry thickets abound with the fan-palmetto, yellow lupin, Spanish broom, and white broom. In the hedges are found the laurel and common passion flower.

Both Spain and Portugal are for the most part deficient in water; the rivers flow through rocky channels, and therefore there are few marshes, and still fewer bogs: the sides of the rivulets however are adorned with the oleander, laburnum, tamarisk, and myrtle, which in these situations grow with unusual luxuriance.

The vicinity of Lisbon and Oporto, and of a few other towns on the coast, is remarkable as to its botany for a number of Indian, African, and American plants, which have gradually strayed out of the gardens, and

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have become completely naturalized to the soil and climate; the hedges to the fields are not unfrequently formed entirely of the American aloe, and Indian fig; the rich soil on the bank of the Tagus glows with the splendid scilla hyacinthoides, the ornithogalum Arabicum, and the allium speciosum; and the sheltered groves and sunny rocks of Belem present the stately magnolia, the date palm, a beautiful kind of cypress, originally from Goa, the tea tree from China, the Cape jasmine, the ice plant, and several others of the same genus from the Cape of Good Hope, together with a profusion of geraniums and heaths.

**ZOOLOGY.]** The glory of the Spanish zoology is the horse, which has been famous in all ages, probably originating from the barb, or beautiful and spirited steed from the north of Africa, the immediate offspring of the Arabian. The Spanish mules are also excellent, and the ass is here no ignoble animal, though not equal to that of Arabia. The breed of sheep has been long celebrated as perhaps superior to any in the world, for the delicacy of the mutton, and the beauty of the fleece. The purity of the air, and aromatic pasture, no doubt contribute to both qualities, which it is to be suspected would degenerate on transportation.

**MINERALOGY.]** The mineralogy of Spain was anciently of more importance than in modern times. Pliny\*, after observing that silver was generally found with galena, or lead ore, proceeds to state that the fairest of all silver was found in Spain, where the pits, begun by Hannibal, lasted to his time, being known by the names of their original discoverers. That called Bebelo had yielded to Hannibal 3000 weight a day, a mountain being pierced for a mile and a half, through which the workmen directed large streams of water; so that the plan pursued seems to have been that called hushing by modern writers. Strabo† informs us that the province of the Turditani, modern Andalusia, was the most productive of precious metals; and gold, silver, brass, and iron, were no where found more abundant, nor of better quality: gold was found in the sands of the rivers and torrents, a known attribute of the Tagus. Polybius informs us concerning the mines of silver near Carthage, which occupied a number of workmen, and yielded to the Romans 25,000 drachms daily. Other mines of silver were found near the sources of the Bætis. This intelligence becomes of the more importance, as Britain and other regions of the west certainly derived their gold and silver from Gaul and Spain, in return for cattle, hides, and other products.

At present, almost the only silver mines in Spain are those of Guadalcanal, in the Sierra Morena. At Almaden, in La Mancha, are valuable mines of quicksilver, which are chiefly remitted to Spanish America, and employed in refining the more precious metals. Calamine appears near Alcavas, cobalt in the Pyrenees; antimony in La Mancha; copper on the frontiers of Portugal‡; tin in Galicia; and lead is common in many districts. The iron of Spain is abundant, and still maintains its high character; and coals are found in the district of Villa Franca, in Catalonia, where also occur gold, silver, copper, and lead§. Amber and jet (in Spanish azabache) are found together in the territory of Belonchia in the Asturias. The other minerals are rather curious than important, such as the beautiful crystallized sulphur found at Conilla, not far from Cadiz, the elastic marble of Malaga, and the green marble resembling the verde antico found near Granada.

**MINERAL WATERS.]** Spain contains many mineral waters, but few are

\* Lib. xxxiii. cap. vi.

† Lib. iii. cap. xxi. of La Placilla, near Medina.

‡ See Dillon, 196, for an account of the

§ Towns. lib. 344, 345.

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celebrated. The hot springs of Rivera de Abajo are situated not far from Oviedo; and bear some resemblance to those of Bath. Near Alicante are the baths of Buzot, warm springs of a chalybeate nature, rising, like the former, among calcareous hills.

**NATURAL CURIOSITIES.]** The natural curiosities of Spain have been little illustrated. The rock of Gibraltar, as is well known, in some parts contains bones which have been supposed to be human; but are now discovered to belong to quadrupeds, and to have been deposited in the fissures from above. This rock is chiefly calcareous, and on the west side is a stalactitic cave called St. Michael's.

### SPANISH ISLES.

The chief circumjacent islands belonging to Spain are Majorca, Minorca, and Eviza; or, according to Spanish orthography, Mallorca, Menorca, Ibiza. Majorca is about 55 English miles in length, by 45 in breadth. The N.W. part is hilly; the rest abounds with cultivated land, vineyards, orchards, and meadow; the air is temperate, and the honey highly esteemed: there is generally a considerable military force in the isle. The capital, seated on a fair bay, is an elegant city, and is supposed to contain 10,000 inhabitants. Majorca was reconquered from the Moors by James I. king of Arragon, in 1229.

Majorca is generally in too strong a state of defence to admit of an easy conquest, but Minorca has been repeatedly seized by the English, to whom it presents an advantageous station for the Mediterranean trade. It is about 30 miles in length, by about 12 of medial breadth. The air is moist, and the soil rather barren, being chiefly calcareous, with lead and fine marble. The wine is praised; and the inhabitants retain a share of their ancient reputation as excellent singers. Cittadella, the capital, has a tolerable haven, but the population and fortifications are of little consequence. Port Mahon, on the S.E. has an excellent harbour, and received its name from Mago, the Carthaginian general. Eviza is the nearest to Spain, about 15 miles long, and 12 broad. It is remarkable for its fruits, and abundance of excellent salt.

## TURKEY IN EUROPE.

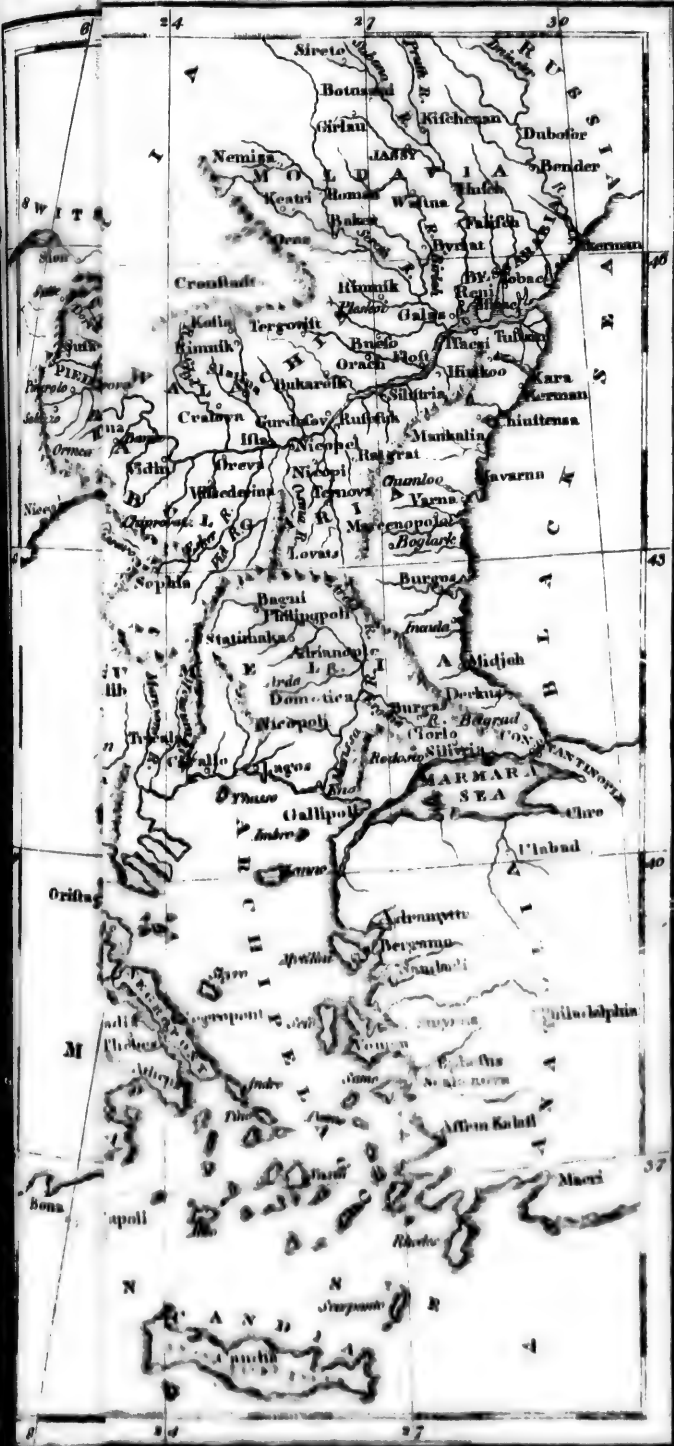
### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**T**HE Turkish empire, once so formidable to Europe, has lately sunk before the power of Russia; yet ancient fame conspires with the remaining extent and population of the Turkish dominions, to entitle this power to a place among the preponderating sovereignties both of Europe and Asia. Turkey in Europe is computed to contain 182,560 square miles;





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miles; an extent which exceeds that of Spain, or even France under the ancient monarchy.

NAMES AND PROVINCES.] As European Turkey forms a recent sovereignty, the greater part of which was subjugated in the fifteenth century, after the fall of Constantinople and of the Byzantine empire, there is no ancient appellation for its whole extent. It embraces many ancient kingdoms and republics, which now only afford a melancholy remembrance of classical names and events. 1. Moldavia, the most northern province, was part of ancient Dacia; and Yassy was the *Jassorum Municipium* of the Romans. 2. Budzac, or Bessarabia\*, was a country of the Getæ and Peucini. 3. Walachia was also a province of the ancient Dacians; while, 4. Bulgaria on the S. of the Danube embraces nearly the two provinces of Mæsia. 5. Romelia, a vast territory, contains ancient Thracia, Pæonia, Macedonia, and the northern part of the classical country of Greece; while, 6. the Morea is equivalent to the ancient Peloponnesus. To the W. of Romelia extends, 7. Albaia; which includes the kingdom of Epirus, Chaonia, and a part of Illyricum. 8. Dalmatia retains its ancient appellation; while, 9. Servia, and, 10. Bosnia, represent ancient Pannonia, 11. Turkish Croatia, the most western province of the empire, also forms a portion of ancient Pannonia, with perhaps a small district of Noricum.

In recent times Turkey has lost the provinces of the Krim, and new Servia, which, with several Asiatic districts, have become subject to Russia; and on the W., Transylvania, Sclavonia, with the Buckovina, part of Moldavia, and a great part of Croatia, have fallen under the power of Austria.

EXTENT.] Turkey in Europe extends about 870 miles in length, from the northern boundary of Moldavia, to Cape Matapan in the Morea. The breadth from the river Unna to Constantinople is about 680 British miles. The eastern and southern boundaries are formed by the Euxine or Black Sea, the sea of Marmora, the Archipelago, and the Mediterranean. The utmost northern limit is now the river Dniester; but the western often consists of an arbitrary line, and is sometimes supplied by rivers or mountains.

ORIGINAL POPULATION.] The original population of this empire chiefly sprung from the ancient Scythians on the Euxine, the progenitors of the Dacians, Thracians, &c. and even of the Greeks. These were originally blended, towards the north, with many Sarmatic or Slavonic tribes; and on the fall of the Roman empire, the latter spread more and more towards the south, so that nearly one half of the population may now be regarded as Slavonic; but Walachia is supposed to contain many descendants of the ancient Roman settlers in Dacia. The extent of the Turkish empire has contributed to mingle this original population with various Asiatic races, among whom the Turks themselves deserve particular mention. That branch called the Ottomans, which has proved so destructive to Europe, derived their name from the calif Othman, who reigned in the beginning of the fourteenth century, and extended his sway into the plains of Bithynia, in which he conquered Nicomedia and Prusa, and thus approached even to the gates of Constantinople†. But the name and power of the Turks are of far more remote antiquity. They are supposed to have descended from the Alaiian mountains in Tatary, about the middle of the sixth century; and spread gradually towards the west, till they reached

\* Not Bessarabia, an absurd corruption.

† Gibbon, xi. 432.

the lake Mæotis\*. Yet the strength of the empire restricted them to the region near the river Oxus, whence the califs derived their Turkish guards, who afterwards subverted the throne of Bagdad. The Hungarians, who spread destruction through great part of Europe in the tenth century, are known to have been a branch from the Finnish stem: but the Turks, or Turkomans, properly so called, spread from the Oxus and Samarcand to the east of Persia, where Mahmoud of Gazna established a powerful kingdom, subdued by the Turks of Bochara, who in the eleventh century founded the dynasty of the Seljuks. The sultans of this race gradually extended their power towards the west, and Armenia and Georgia were among their first acquisitions in the Byzantine empire. Towards the middle of the fourteenth century, the Turks first passed into Europe; and soon after seized the greatest part of Thrace. In the beginning of the fifteenth century, their sultan Bajazet extended his conquests even to the Danube; and the provinces of Thrace and Macedonia fell under the Turkish sceptre, while Adrianople became the seat of their government.

From this deduction it will appear, that it was chiefly with European troops that the Turks finally subverted the Byzantine empire. From the diversity of nations which joined their standard, from intermarriages with women of Circassia, and many other circumstances which need not be here recapitulated, the modern Turks may be regarded as a mixture of many races of men. If they originally sprung from the Altaian mountains, as the best records induce us to believe, they seem to have formed a part of the nations styled by the ancients "the Scythians beyond the Imaus;" and their subsequent settlement on the Oxus must have swelled their population with Sogdian and Bactrian tribes.

[PROGRESSIVE GEOGRAPHY.] The progressive geography of Turkey in Europe is reflected in the greatest lustre from the classical pages of antiquity, and through the annals of the Byzantine empire to modern times. Under the Byzantine empire, in the tenth century, the Peloponnesus contained no less than forty cities, whose ruins still exhibit the lamentable marks of the devastations of the Ottoman barbarians, whose only power is to destroy, and whose baleful sway extinguishes all industry and prosperity. The Turkish division into provinces has been already stated.

[HISTORICAL EPOCHS.] It would be difficult and unsatisfactory minutely to state the historical epochs of this extensive dominion, containing so many ancient kingdoms and states. It shall therefore be only premised that, after the Roman arms had subdued these countries and cities, many of which are celebrated in the most ancient pages of history, they became in the fifth century an important part of the Byzantine empire; and the historical epochs most appropriated to the present design will delineate their gradual subjugation by the Turks.

1. The first dawn of Turkish history preceding the reign of Othman, A.D. 1299.

2. In the reign of his successor, Orkan, the Turks take Gallipoli, and penetrate into Thrace; which province was soon after conquered, and Adrianople was taken A.D. 1360. Two years afterwards the sultan Amurath established the famous military bands called Janizaries, composed of Christian slaves educated in Mahometanism from their infancy.

3. The reign of Bajazet, who defeats the Hungarians at Nicopoli, in Bulgaria, A.D. 1396. In 1402 the famous battle was fought near An-

\* Gibbon, vii. 294.

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cyra, between Bajazet and Timur, which for a period checked the Turkish power: yet in 1412 the emperor Sigismund was defeated by the sultan Mehmed with great slaughter.

4. The Turks continue to increase their dominion in Europe, though they received severe checks from the Hungarians under Hunniades, and even from the Albanians commanded by the celebrated George Castriot, called by the Turks Scanderberg.

5. Constantinople taken by the Turks on the 29th of May 1453. In 1456 happened the siege of Belgrade by Mahomet II. Corinth and the Morea became subject to the Crescent A.D. 1458. In 1480 Otranto in Italy was taken by the Turks, an event which diffused great terror throughout Europe.

6. A considerable accession to the Turkish power took place in the conquest of Egypt, A.D. 1517. In 1522 Rhodes submits to the Turks: the knights were afterwards transferred to Malta. In 1526 the noted battle of Mohatz, in which Lewis king of Hungary perished; and the sultan Soliman soon after took Buda. In 1529 he besieges Vienna at the head of 250,000 men, but the city being bravely defended by Frederic, prince palatine, the Turks withdrew with great loss. In 1552 the Turks seized the Bannat of Temeswar; and took Cyprus from the Venetians in 1571.

7. In the same year was the famous naval battle of Lepanto, which delivered Europe from any apprehension of the Turks by sea. They continued however to invade Hungary with various success. But their wars with Persia gradually diverted their arms from Europe. In 1642 the sultan Ibrahim took from the Cossacs the town of Azof at the mouth of the Don. Towards the middle of this century they seized some Grecian isles, which the naval power of the Venetians had enabled them to retain.

8. Mahomet IV. renews the wars against the emperor of Germany; and in 1663 the Austrians were defeated in Hungary. The isle of Candia is taken in 1669, after a long blockade and siege. Wars with Poland. The siege of Vienna, 1683, was raised by John Sobieski king of Poland. Hungary became the scene of repeated Turkish and Austrian conquests, till 1699, the peace of Carlovitz, by which the Turks yielded Transylvania to the Austrians, the Morea to the Venetians, and Azof to the Russians.

9. In 1736 a successful war was begun with the Russians and Austrians; the Turks, by the peace of 1739, resumed Belgrade and Orsova, with some parts of Servia and Walachia, formerly ceded to Austria; and Russia is constrained to abandon Azof.

10. The more recent wars of the Russians against the Turks, and the subsequent decline of the Ottoman empire.

Some of the events here commemorated are comparatively minute; but the Turkish power has been so destructive, wherever it spread, to the best interests of humanity, that even the smaller ramifications of such a pestilence seem not undeserving of being commemorated, with the same curiosity that natural historians describe the utmost extent of an earthquake.

ANTIQUITIES.] The ancient monuments of European Turkey are well known to exceed in number and importance those of any other country. The remains of ancient Athens, in particular, formerly the chosen seat of the arts, have attracted the attention of many travellers, and have been repeatedly described. A venerable monument of antiquity, the church dedicated to the divine wisdom, or vulgarly Sancta Sophia, by the emperor

Justinian, in the sixth century, has been fortunately preserved, by being converted into a mosque. The interior is adorned with a profusion of marble columns, of various beautiful descriptions, the purple spotted Phrygian, the Spartan green, the red and white Carian, the African of a saffron colour, and many other kinds. The other antiquities of Constantinople and European Turkey, would occupy many pages in the bare enumeration. Suffice it here to observe that the French have recently discovered the remains of the ancient sea-port belonging to Sparta, near a barren promontory, which projects from the south of the Morea; and that the antiquities and geography of that part now styled Albania, still present a field of research to the enterprising traveller.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Government.—Laws.—Population.—Colonies.—Army.—Navy.  
—Revenues.—Political Importance and Relations.*

**RELIGION.]** THE religion of the Turks is the Mahometan; but of their subjects, in this division of the empire, it is probable that two thirds are Greek Christians. The religion of Mahomet has been recently cleared from many erroneous representations; but its pernicious effects are sufficiently visible in the destruction of art and industry, wherever it has made its appearance. The exclusive attachment to the Koran, the rigid fanaticism, and the contempt for profane knowledge, conspire with the devout hatred against all unbelievers to prevent any intercourse with other sects, and thus to erect a barrier against every branch of science and industry. While the Mahometans regard all other nations as dogs, (to use their own expression,) it is no wonder that they themselves should sink into an ignorance and apathy truly brutal. The musti, or Mahometan pontiff, presides at Constantinople; but his power has seldom interfered with the civil government. Next to him in rank are the mouhlahs, who, though esteemed dignitaries of the church, are in fact rather doctors of the law, while the Koran is also a code of civil observance. From the mouhlahs are selected the inferior mustis or judges throughout the empire, and the cadilequiers, or chief justices.

The next class of divines are the imaums, or parish priests, who perform the service of the mosques, while the cadis are judges annually appointed to administer justice in the towns and villages, being themselves to be regarded as churchmen, who, like the moulahs, have directed their chief attention to the juridical part of the Koran.

From this brief view it will be observed, that the ecclesiastical order of mustis and imaums somewhat resemble the Christian bishops and parochial clergy; while the other distinctions arise from the singularity of both religion and laws being united in the Koran, so that a lawyer and judge must at the same time be a skilful divine.

The Turks have also their monks, styled dervishes of four various orders and institutions, dedicated by solemn vows to religious office, public prayer, and preaching.

The Greeks, along with their faith, retain their priests, bishops, archbishops, and patriarchs; but their church is in the last state of degradation

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tion, and its dignities openly sold by the Turks: this abomination however, it must be confessed, partly arises from the miserable ambition and avarice of the Greek ecclesiastics, who think they can atone by idle ceremonies for the neglect of all the invaluable morality of the gospel.

**GOVERNMENT.]** The sultan is a despotic sovereign; but he is himself strictly subject to the laws of the Koran, which, including also the national religion, raise such obstructions to his absolute will, that an intelligent traveller pronounces many Christian sovereignties more despotic. Hence it appears that the power of the monarch is balanced by a religious aristocracy, which, together with the mutinies of the Janizaries and the insurrections of the provincial pachas, has greatly weakened the sovereign authority.

The Turkish laws, as has been already mentioned, are contained in the Koran; but to supply the defects of this work, successive moulahs of high reputation, using the Koran as a kind of text, have constructed commentaries which have acquired the force of laws. The Turkish empire is chiefly guided by those of Abou Hanife. As a due skill in these commentaries requires considerable study, ecclesiastics versed in this science became in some degree a distinct body from those merely dedicated to the priesthood.

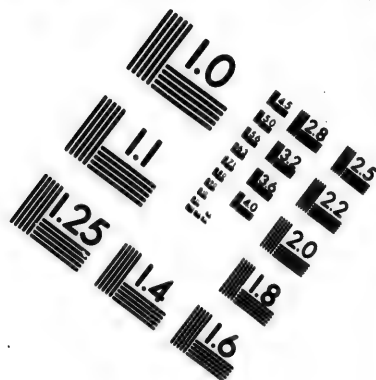
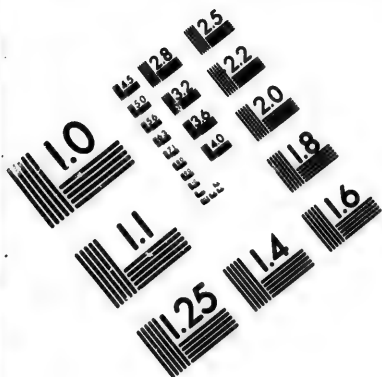
**POPULATION.]** Turkey in Europe been computed to contain 8,000,000 inhabitants; and the extent being supposed 182,560 square miles, the allotment will be 43 to the mile square. It is probable that this number rather exceeds the truth, when it is considered that these regions are intersected by many mountainous and barren tracts, and that the population even of the best provinces impresses travellers with a striking defect.

**ARMY AND NAVY.]** The Turkish army and navy may deserve more particular consideration under the head of Asiatic Turkey, as the chief sources fall under that division. It may here be briefly remarked that there are about 30 ships of the line; while the army, after the defection of many pashas, can scarcely exceed 150,000, ill disciplined, and dispirited by successive disasters; and more destructive to their own provinces, through which they must pass, than to any state with which they are at enmity; more terrible to their friends than to their foes.

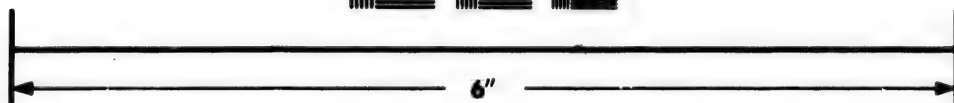
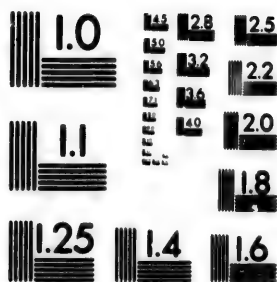
**REVENUES.]** The revenues of the whole Turkish empire are computed at about 7,000,000 sterling, while the usual expence does not exceed five. This revenue is partly derived from the capitation tax on unbelievers, and from the *zecchat* or customs; but principally from the tax on land, amounting to about six shillings an acre, and which is called the *jizie*. The sultan is also supposed to possess a considerable private treasure; which, when called forth by the exigencies of the state, will probably be found of as small account as the treasures of similar fame which fell into the hands of the French. A more real treasure may be expected from the arbitrary exactions from the rich, particularly the Christians.

**POLITICAL IMPORTANCE AND RELATIONS (1806.)** The palpable and rapid decline of the Turkish empire has of course greatly impaired its political importance. At the beginning of the sixteenth century, when European politics began to assume some consistency, France, being alarmed by the growing power of the house of Austria, entered into an alliance with Turkey, the repeated subject of murmur among the Christian powers. This long alliance has been recently violated by the imprudence of the French rulers, who chose to attack Egypt by open force,





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force, without the consent of the Porte. In consequence of this violation, the Turks joined the Austrians and Russians in the war against France, and Russian squadrons of war have passed the sacred walls of the seraglio, and inspected as friends that weakness which may assist them as enemies. Since the peace the French have regained their usual ascendancy, and by their potent interposition may, no doubt, if they choose, considerably modify, and perhaps render null, any future conspiracy of Austria and Russia against the European dominions of Turkey. The Turks are sensible that a strict alliance with Prussia would be of singular advantage to them; that power can have little interest in such a treaty, but must on the contrary rather exult to see the power of Russia exerted against Turkey and Asia. Meanwhile the Turks have spared no endeavour to secure the friendship of several European powers, and have appointed resident ambassadors at several courts, who may be regarded as heralds of their fall; for in their prosperity they disdained to send any envoys, and regarded the ambassadors at the Porte as tributary slaves, sent to solicit the protection of the sultan. Amidst the defection of several pashas, in the east as well as in Europe, it is fortunate for the Ottoman empire that the power of Persia is dormant.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Roads.—Inland Navigation.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** **T**HE manners and customs of the Turks are distinguished by the peculiarity of their religion from those of other European nations. On the birth of a child the father himself gives the name, putting at the same time a grain of salt into his mouth\*. Marriage is only a civil contract, which either party may break, and is managed by female mediation, the youth seldom seeing his bride till after the ceremony. The burial-grounds are near the highways, and stones are often placed at the head of the graves, with carved turbans denoting the sex. As they never intrench upon a former grave, the cemeteries are very extensive. In diet the Turks are extremely moderate, and their meals are dispatched with great haste. Rice is the favourite food, and is chiefly dressed in three ways; the pilau, boiled with mutton or fowl; the lappa, or mere boiled rice; and the tchorba, a kind of broth of the same vegetable. The meal is usually spread on a low wooden table, and the master of the house pronounces a short prayer. The frugal repast is followed by fruits and cold water, which are succeeded by hot coffee and pipes with tobacco. The houses of the Turks are seldom expensive; and the chief furniture is the carpet which covers the floor, with a low sofa on one side of the room. In regard to dress, Tournefort† observes that the use of the turban is unhealthy, because the ears are exposed, and its thickness prevents perspiration. The shirt is of calico: and the loose robe is fal-

\* Tournefort, l. 47.

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ted by a girdle, in which is stuck a dagger, while the tobacco box, pocket book, &c. are worn in the bosom. The robe is generally of European broad-cloth, trimmed with various furs. The shoes, or rather slippers, are slight, and unfit for much exercise. The dress of the women differs little from that of the men, the chief distinction being the head-dress; that of the fair sex consisting of a bonnet, like an inverted basket, formed of pasteboard covered with cloth of gold, or other elegant materials, with a veil extending to the eyebrows, while a fine handkerchief conceals the under part of the face. The personal cleanliness of both sexes is highly laudable; but the European eye is not pleased with the female custom of staining the nails with a red tincture. The amusements of the Turks partake of their indolent apathy, if we except hunting and those of a military description. To recline on an elegant carpet, or in the hot season by the side of a stream, and smoke the delicate tobacco of Syria, may be regarded as their chief amusement. With opium they procure what they call a kief, or placid intoxication, during which the fancy forms a thousand agreeable images, but when the dose is too potent these are succeeded by irritation and ferocity. Chess and draughts are favourite games; but those of chance are considered as incompatible with strict morals. The coffee-houses, and the baths, furnish other sources of amusement; and the bairam, or festival which follows their long lent is a season of universal dissipation.

LANGUAGE.] The Turkish language is of far inferior reputation to the Persian or Arabic, being a mixture of several dialects, and possessing neither the force, elegance, nor purity of those two celebrated oriental tongues. Literature is not however totally neglected, and it has been repeatedly attempted to establish a printing press at Constantinople; but the design failed from the interest of the copyists, who inferred that this art would deprive them of their bread. A late traveller informs us that there are in this capital several *kuttub chaus*, or public libraries, among which are those of St. Sophia and the Solimanie Jamasy; but none are so elegant as that founded by the grand vizier Raghid, which is wholly built of marble in the midst of a square court, and is filled with books, chiefly theological. A librarian constantly attends, and there are convenient seats with carpets and cushions. In the neighbourhood is a school founded by the same vizier, in which about 100 boys are taught to read and write. The market for books is extensive, containing many shops well supplied with oriental manuscripts. The Turks have their ancient poets, historians, and divines; but of little reputation when compared with those of Persia or Arabia.

EDUCATION.] The state of education among the Turks may be conceived to be very low, and ignorance is indeed a chief part of the national character. The only profession which requires a shadow of learning is that of the law, which, as before explained, is intimately connected with their theology. The celebrated doctors have disciples, who are trained up to that department, but there seems nothing that can deserve the name of college or university.

CITIES AND TOWNS.] The chief city of European Turkey, and of the Turkish empire, is Constantinople, so called because founded by Constantine on the site of the ancient Byzantium. The advantages of the situation can hardly be exceeded, and the aspect from the sea is peculiarly grand; but on a nearer approach, the wooden hovels and narrow streets disappoint the splendid expectations of the spectator. This capital forms an unequal triangle, resembling a harp, being about twelve or fourteen English miles in circumference, inclosed by walls, and on two sides by the

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the sea and the harbour called the Golden Horn. The inhabitants are computed at 400,000, including the four suburbs, Galata, Pera, Tophana, and Scutari. Of these 200,000 are Turks, 100,000 Greek, and the remainder Jews, Armenians, and Franks. The most celebrated edifices are the Seraglio, which comprizes a large space crowded with various buildings of mean architecture; and the mosque of Sancta Sophia. The principal entrance of the Seraglio is styled Capi, or the Porte, an appellation which has passed to the Turkish court.

Next in dignity and extent is the city of Adrianople, formerly the European seat of the Turkish dominion. This city which stands about 140 British miles to the N.W. of Constantinople, was founded by the emperor Hadrian on the site of the ancient Orestias. It is washed by the Hebrus, now the Maritz, which here receives two tributary streams\*. This second city of European Turkey is of a circular form, and at present unfortified. Many of the houses are respectable, but the streets are narrow and indirect. The seraglio is in a pleasant situation, separated from the city by the river Arda, and commanding an extensive view of the country, which is fertile, and remarkable for excellent vines. Several of the mosques are of celebrated splendour, and the commerce of the city by the river is not inconsiderable.

Filibé, or Filipopoli, is meanly built, without fortifications, or one good street; the situation being so low and moist that the mud is sometimes two feet deep, and stones like posts are set up to facilitate the progress of foot passengers. Yet it is a city of considerable size.

The city of Sofia, situated in a low country N.W. from Adrianople is of considerable trade, but meanly built: the inhabitants are computed at 70,000.

Silistria in Bulgaria, on the river Danube, is computed to contain 60,000 souls; while Bucharest, the chief city of Walachia, is estimated at the same number; but Jassy, the leading town of Moldavia, and Bender of Bessarabia, are only estimated each at 10 or 12,000.

Belgrade, the capital of Servia, repeatedly disputed between the Austrians and Turks, is now destitute of fortifications, but is supposed to retain about 25,000 inhabitants. Banjaluka in Bosnia is also a considerable town, supposed to contain 18,000 souls.

In the more southern provinces must first be named Salonica, computed at 60,000, a city of considerable commerce, seated on a noble gulph of the Archipelago. About 80 British miles to the south is Larissa, an inland town, but supposed to contain 25,000 souls. Atini, the ancient Athens, is of small population; and this region of classical cities now scarcely presents another town worthy of commemoration in general geography.

**EDIFICES.]** Exclusive of the seraglios and royal palaces, which themselves possess little claim to architectural grandeur or beauty, the chief edifices in Turkey are the mosques and caravanseras. The most splendid mosques are those of the capital and Adrianople, and are generally kept in excellent repair, as the church possesses ample revenues for that purpose, and the interest and honour of the clergy are promoted by preserving their splendour. The caravanseras, on the contrary, are often neglected. These buildings are generally in the form of a square, inclosing a court, the upper chambers being destined for travellers, and the lower for horses and camels. They are often founded by legacies of the opulent; but the trustees, having no personal interest, generally

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squander or alienate the funds allotted for their support, so that these useful edifices, some of which boast superior elegance, are permitted to fall into shameful decay.

**MANUFACTURES AND COMMERCE.]** The manufactures and commerce of Turkey in Europe are chiefly in the hands of foreigners; but as what is called the Levant trade, almost entirely centers in Smyrna and the Asiatic shore, this subject will be more properly described in that part of this work which relates to Asia. The native manufactures exported from European Turkey are inconsiderable, being chiefly carpets, and a few other articles; but the rude products are far more numerous, as currants, figs, saffron, statuary marble from Paros, silk, and drugs.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE extensive regions comprised within the limits of European Turkey enjoy, in general, a delicious climate, pure air, and regular seasons. Ovid, who was banished to modern Bulgaria, has written many elegiac complaints on the severity of the clime; and it seems an undoubted fact that the seasons have become more genial since Europe has been stripped of those enormous forests, which diffused humidity and cold. The climate of Moldavia, which Ovid would have painted like Lapland, is now little inferior to that of Hungary, though the western part be mountainous, and the eastern present many uncultivated deserts. In Walachia the air is so temperate that vines and melons prosper. In the mountainous parts of the more southern districts the temperature must partake of the cold, universal in such elevated regions; but the products of Macedonia and Greece, rice, vines, and olives, shew that the climate retains its ancient praise.

**FACE OF THE COUNTRY.]** The general appearance of Turkey in Europe is rather mountainous, but abundantly interspersed with delicious plains and vales; and to the N.W. of Constantinople there is a plain country of vast extent, while the shores of the Euxine present many level deserts. Besides the grand stream of the Danube many large and beautiful rivers intersect these provinces, and the numerous gulphs of the Archipelago and Mediterranean diversify and enrich the country.

**SOIL AND AGRICULTURE.]** The soil is generally fertile, the northern parts producing wheat and rich pasture, the middle and southern abundance of rice. But agriculture, like every other art and science, is neglected by the Turks; and that soil must be truly fertile which, under their sway, can support its inhabitants.

**RIVERS.]** Among the rivers of European Turkey must first be named the Danube, which from Belgrade to Orsova divides Servia from the Bannat, a space of near 100 miles; and afterwards becomes a Turkish stream for more than 400, being in some places a mile in breadth, and presenting;

presenting, if possessed by an industrious people, all the advantages of a Mediterranean sea.

Next perhaps in importance, though very inferior, is the Maritz, or ancient Hebrus, which rising in a chain of mountains anciently called Hæmus, and running towards the E. and S., falls into the *Ægean* sea, after a course of about 250 miles. The same sea at the gulph of Salonica receives the Vardari, the ancient Auxius, which rising in Mount Scardus, a western branch of the same chain, pursues a S. E. course of about 200 miles.

Two other rivers of similar consequence flow into the Danube. The Esker, the ancient Oeskus, rises near the source of the Maritz, but its course little exceeds 120 miles; while the Morava, the ancient Margus, runs about 200. The Drin, another considerable river, rises to the north of Albania, and falls into the Save.

Many other streams of classical name pervade these regions; but they often derive their sole importance from their historical and poetical reputation.

**LAKES.]** Budzac and Walachia contain some lakes of considerable extent, as those round Ismail, and that to the E. of Surza, which communicates with the Danube, or forms a part of that river. Nor are Albania and the southern provinces wholly destitute of lakes, but rather of classical fame than of geographical importance.

**MOUNTAINS.]** The chains of mountains are numerous and extensive.

To the W. of Moldavia and the Buckovine runs N. and N.W. for about 200 miles part of the grand Carpathian chain, anciently called the Bastarnic Alps, from the Bastarnæ, an extensive nation, partly of Gothic and partly of Sarmatic origin. The most southern branch of this grand chain, tending S.W. for more than 200 miles, forms the N. and W. boundary of Walachia.

On the S. of the Danube appears the grand range of the Hæmus, which Ptolemy represents as running from the S.W. to the N.E., while modern observations indicate the opposite direction; but the recent maps of these regions are still very imperfect. However this be, the chain of the Hæmus is deservedly celebrated by the ancients, being of great elevation and extent, as appears from the numerous and large rivers which devolve from its sides. The middle parts of this chain were by the ancients called Scomius and Orbelus, while the Scardus may be considered as its farthest branch on the west. If we place the farthest eastern point of the Hæmus at Eminch, and thence extend it above Filipopoli and Sofia to the S. of Servia, we shall find a mountainous tract of more than 400 miles, now known under various names, as Eminch, or Hemineh Dag, on the east; Bulkan and Samoco in the middle; Ivan on the west; while the Despoto Dag branches off to the S.E., and may perhaps be the Rhodopé of the ancients.

From the western extremity of the Hæmus seem to branch off two other extensive chains; one running N.W. between Dalmatia on the W. and Bosnia and Servia on the E., while the other passing S. forms the mountains of Albania and the W. of Greece. The chain running to the S. has many classical appellations, as the Acroceraunian, Pindus, &c. The E. and S. of Greece are also crowded with small chains of mountains and solitary hills, such as Olympus, Ossa, Pelius, and others. Mount Athos, a detached summit in the N.E., is of considerable height, but has chiefly attracted observation from its singular form, so much resembling that of Montserrat in Spain; and from the many monasteries and churches on the declivities of its picturesque pinnacle.

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**BOTANY.]** While all the Christian countries of Europe have been surveyed with more or less accuracy, either by the independent zeal of their native naturalists, or under the honourable patronage of their respective governments, the Turkish empire, containing the most celebrated and beautiful provinces on the face of the earth, has been almost wholly excluded from the researches of modern botanists. The distant regions of India, Japan, and Australasia, the sultry deserts beyond the Cape of Good Hope, the pestilential swamps of America, and the forlorn expanse of Siberia, have been penetrated by the indefatigable zeal of the Linnæan school; their animals, minerals, and vegetables, have been in a considerable degree described and arranged; while the cradle of civilization, the birth-place of those arts and sciences that have raised the nations of Europe to so proud an elevation above the rest of the world, has been trodden for ages past by barbarian feet. The vegetable tribes that clothe the rocks of the Cretan Ida, and shade the summits of Athos and Oeta, that adorn with their varied tints the vale of Tempé and the plains of Thessaly, that bask on the sunny shores of the *Ægean*, or rise in stately luxuriance on the banks of the majestic Danube, succeed to each other, generation after generation, unknown and unregarded. A few hasty gleanings, chiefly from the maritime parts, have been brought home by travellers; but of the botany of the interior, especially of those provinces which lie between the Danube and the Archipelago, we are almost wholly ignorant.

The forests of Greece, the Greek islands, and the provinces bordering the Archipelago to the north, consist of the common and yew-leaved fir, the larch, the cedar, the ilex, the kermes oak, the common oak, the oriental plane-tree, the maple, the sycamore, the walnut, the chestnut, and the beech. The principal fruit-trees are the olive, considerable forests of which, mixed with the broad-leaved myrtle, adorn the shores of Crete and Attica; the orange, the fig, the vine, the pistachia tree, the mastich tree, the mulberry, and the pomegranate. Of the shrubs and smaller trees the most worthy of notice are the bay-tree, the laurel, two kinds of arbutus, the cypress, the oleander, and the caper bush. A large proportion of the soil in Greece and the Greek islands being calcareous, the Greek flora, in its present imperfect state, consists for the most part of those plants that are peculiar to lime-stone districts. The island of Crete has always been celebrated for its vegetable productions, of which the following are the chief, and all of them indicative of a calcareous soil: Cretan woundwort, thistle leaved acanthus, Cretan origany, Cretan ditany, tragacanth vetch (from which the gum of this name is procured), and ladanum cistus; an elegant shrub, from the leaves and tender stalks of which the fragrant gum ladanon exudes; this is collected by whipping the plants with leathern thongs, to which the gum adheres, and off which it is scraped from time to time.

**ZOOLOGY.]** The zoology of European Turkey presents few peculiarities. The jackal, frequent in Africa and Asia, is not unknown in these regions; and among the beasts of burden must be classed the camel. The Turkish horses are celebrated for spirit and form; and those of Walachia deserve particular praise. The breeds or qualities of their cattle have been little explained. The sheep distinguished by the name of Walachian have spiral horns of singular elegance; but the fineness of the fleece would be a more useful distinction.

**MINERALOGY.]** The mineralogy of these provinces is also a barren field; for the indolence and ignorance of the Turks have generally neglected this branch of opulence; though from the mines in the adjacent regions

regions of Hungary and Transylvania, and from the ancient accounts, there would be room to expect great mineral treasures. The gold mines of Philippi, about 80 miles to the east of Saloniki, in the time of Philip of Macedon, produced yearly about 10,000 talents, 2,880,000*l.* sterling; and silver mines were found in Attica, and other quarters \*.

**MINERAL WATERS.]** The mineral waters are little known or celebrated; and the natural curiosities in the northern parts, and around mount Hæmus, remain undescribed. Of those in the south, the principal is the grotto of Antiparos, one of the islands of the Cyclades to the west of Paros. The whole isle is a rock of fine marble, about sixteen miles in circumference. In its southern part, about a mile and a half from the sea, rises a rugged cavern, with some ancient inscriptions. After proceeding about twenty paces, appears a dark and low passage, whence the traveller, being provided with lights, descends by a rope, and afterwards by a ladder placed by the side of deep abysses. The path now becomes more easy, and conducts to another deep precipice, which is descended by another ladder. After much fatigue, and some danger, the traveller at length arrives in the grotto, which is supposed to be about 900 feet from the first opening. Tournefort estimates the height of the grotto at about 40 fathoms. The stalactitic marble hangs from the roof, in the most elegant and picturesque forms; and on the floor are large masses of stalagmite, brownish and less pure, produced by the liquified stone dropping from above. A great distinction between this grotto and others of a similar kind in England; and other countries, is the purity of the material, being marble of a snowy whiteness, and the finest calcareous spar. The marble of Paros has been known and celebrated since the classical times, as the most pure that the sculptor can employ; but some prefer that of Carrara, as of a finer and closer grain, and more obedient to the chissel, the Grecian having a large crystalline grain, apt to slit off more largely than required.

### ISLANDS BELONGING TO TURKEY IN EUROPE.

The numerous islands in the Archipelago are by geographers considered as belonging to Europe, except a few which approach the Asiatic shore, as Mytilene, Scio, Samos, Cos, and Rhodes.

The classical islands of ancient Greece have been so repeatedly described, that little more than an enumeration may suffice. The largest is that of Crete or Candia, which is about 180 British miles in length, by 40 as its greatest breadth. A chain of high mountains, called the White Mountains, from the snow, pervades a great part of its length †. The inhabitants are vigorous and robust, and fond of archery. This isle abounds with cattle, sheep, swine, poultry, and game, all excellent; and the wine is balmy and luscious. The siege of Candia by the Turks in the middle of the seventeenth century is remarkable in modern history, as having continued for 24 years, 1646—1670. This island had before flourished under the Venetians.

Next is Negropont, anciently called Eubœa, about 100 British miles in length by 20 in breadth, a large and important island, which also belonged to the Venetians to a late period ‡.

\* See the Mineralogy of the Archipelago by Reinegg, in the author's *Petrælogia* vol. ii. App.

† Tournefort, i. 69, &c.

‡ The isles of Corfu, Cefalonin, and Zante, on the other side of Greece, were, on the fall of Venice, seized by the French, but now constitute an independent republic, under the protection of Russia; a curious experiment on the genius of modern Greece.

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The other isles are generally of a diminutive size, and were divided by the ancients into separate groups, of which the Cyclades were the most memorable; while the Sporades approached the Asiatic shore. Other chief names are Lemnos, Skyro, and Andro. It must not be omitted, that in the year 1707 a new island arose from the sea, with violent volcanic explosions, near Santorine, and about a mile in diameter\*. The other islands shall be briefly described, under their proper division of Asiatic Turkey.

## HOLLAND.

### CHAPTER I.

#### POLITICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Divisions.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**NAMES.]** THE Seven United Provinces were, in ancient times, chiefly possessed by the Batavi, a people highly celebrated by Tacitus: but the boundaries being modern, there is no ancient appellation which particularly denotes this country. It is commonly styled the republic of Holland, from the name of the chief province: so called from the German word *Hohl*, corresponding with the English word hollow, and implying a concave or very low country. The people are called Dutch from the German *Deutsch*, or *Teutsch*: but *Deutschland* properly signifies the vast extent of Germany itself, though by the English restricted to a small portion using a dialect of the German language.

**EXTENT.]** These provinces extend, from the N. of Groningen to the southern boundary along Austrian Flanders and Brabant, about 150 British miles; and in breadth, from what is called the North Sea to the circle of Westphalia, about 100 British miles. The number of square miles is computed at 10,000.

**ORIGINAL POPULATION.]** The original population appears to have been Celtic: but when the Romans conquered this country, the chief inhabitants were the Batavi, the most northern people of Belgic Gaul, and incontestibly a German or Gothic progeny; who appear to have been secure in their marshes and islands, till the Frisians, the next adjacent people in the north, in the seventh century extended themselves even down to the Scheld. In the eighth century the Frisians were subdued by the Franks under Charles Martel; but the Frisians and Franks may be regarded as mingled in the population with the ancient Batavians†.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of this region becomes curious and interesting, from the singular phenomenon of the increase of the sea. Upon inspecting the accurate maps of the ancient and

\* The curious reader may find a long detail of this singular event in Payne's *Geographical Extracts*, p. 252—256.

† D'Anville, *Etats formés en Europe*, p. 26.



middle geography of Gaul by D'Anville, it will be perceived that the Rhine divided itself into two grand branches at Burginacium, or Schenk, about five miles N.W. of the Colonia Trajana, now an inconsiderable hamlet called Koln, near Cleves. The southern branch joined the Meuse at the town of Mosa, or Meusi; while the northern passed by Dursstadt, Utrecht, and Leyden, into the ocean. From the northern branch was led the canal of Drusus, which originally joined the Rhine to the Issil, a river that flowed into a considerable inland lake called Flevo, now a southern portion of the Zuyder Zee. This canal of Drusus being neglected, and left to the operations of nature, the Rhine joined the Issil with such force, that their conjunct waters increased the lake of Flevo to a great extent; and, instead of a river of the same name, which ran for near 50 Roman miles from that lake to the sea, there was opened the wide gulph which now forms the entrance. The northern and chief mouth of the Rhine was, at the same time, weakened and almost lost by the division of its waters, and even the canal of Drusus was afterwards almost obliterated by the deposition of mud in a low country, in the same manner as some of the ancient mouths of the Nile have disappeared in the Delta of Egypt.

The southern branch of the Rhine, which flowed into the estuary of the Meuse, as above mentioned, was anciently called Vahalis, a name retained in the modern Waal; the ancient isle of the Batavi being included between the two branches of the Rhine, and thus extending about 100 Roman miles in length, by about 22 at the greatest breadth. The estuaries of the Meuse and the Scheld have also been open to great inroads from the ocean; and the latter in particular, which anciently formed a mere delta, with four or five small branches, now presents the islands of Zealand, and the most southern of those of Holland, divided by wide creeks of the sea. This remarkable irruption is supposed to have happened at the time that the Goodwin Sands arose. These great changes may be conceived to have made a slow and gradual progress: and none of them seem so ancient as the time of Charlemagne. Some of them are so recent as the fifteenth century; for, in 1421 the estuary of the Meuse, or Maese, suddenly formed a vast lake to the S.E. of Dort, overwhelming 72 large villages, with 100,000 inhabitants, who perished in the deluge\*.

By a subsequent change the Rhine was again subdivided; and a chief branch fell into the Leck, which joins the estuary of the Meuse between Dort and Rotterdam, and must now be regarded as the northern mouth of that noble river; while the Vahalis, or Waal, continues to be the southern; both branches being lost, at least in name, in a comparatively small stream, the Meuse. The less important variations in the geography may be traced with some precision in the Francic historians, and other writers of the middle ages.

**HISTORICAL EPOCHS.]** Among the chief historical epochs may be numbered:

1. The actions of the Batavi in the Roman period, from the first mention of that nation by Julius Cæsar.
2. The conquest by the Frisians, and afterwards by the Danes, and by the Franks.
3. The countries watered by the Meuse and the Rhine were for a long

\* Cluver, 96. Guicciardini, 271. Some authors arbitrarily assign these changes to violent tempests, A.D. 860; others to 1170. A Zealandic chronicler, quoted by the same author, says that the islands of Zealand were formed by violent tempests in the year 930, a date which seems to deserve the preference.

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time divided into small earldoms; but, in the year 923, Theodoric, or Diedric, brother of Herman duke of Saxony, and of Wickman earl of Ghent, was appointed count of Holland by Charles the Simple, king of France, and the title became hereditary. Zealand and Friesland were included in the donation. The county of Gelderland on the E. was erected by the emperor Henry IV. in 1079, and became a duchy in 1339. Utrecht was subject to its powerful prelates, who had frequent contests with the earls of Holland.

4. Frequent contests appear between the earls of Holland and those of Flanders, concerning the possession of the islands of Zealand. Philipina, daughter of William III. earl of Holland, was married to the prince of Wales, afterwards Edward III. of England, a princess worthy of an heroic husband. This king afterwards contested the earldom of Holland with Margaret his sister-in-law. Jacquelin the heiress of Holland in 1417 wedded John IV. duke of Brabant; but her uncle John of Bavaria, who had resigned the bishopric of Liege in the hopes of espousing her, contested the succession. A kind of anarchy following, Jacquelin went to England, where he married in 1423 Humphry duke of Gloucester; and this marriage being annulled by the pope, she wedded in 1432 Borselen stadtholder of Holland; and the next year was forced to resign her states to Philip the Good, duke of Burgundy.

5. Holland, with other large possessions of the house of Burgundy, fell by marriage to the house of Austria.

6. Holland and some inferior provinces revolt from the tyranny of Philip II. in 1566; and in 1579 formed the famous union of Utrecht.

7. By the end of that century the Dutch had established colonies at the Cape of Good Hope, and in the East Indies; and settlements were afterwards gained in S. America. During the seventeenth century they rivalled the English in the empire of the sea; and greatly exceeded them in commercial advantages. Their power began somewhat to decline after the obstinate naval conflicts in the time of Charles II. In 1672 Louis XIV. invades Holland; and Amsterdam is only saved by opening the sluices.

8. William stadtholder of Holland ascends the throne of England 1688; and a stricter intercourse prevails between the countries, Holland becoming the grand channel of the commerce of England with the continent.

9. The stadtholderate declared hereditary 1747. The war in 1756 opening great connexions between Holland and France, a French party began to form in the country, which opposed the stadtholder, who was supported by the English. In 1780 a war arose between Great Britain and Holland, which closed in 1784, after exposing to Europe the decline and weakness of the United Provinces, still farther displayed by the entrance of the duke of Brunswick in 1788, who may be said to have subdued them without a blow.

10. The Dutch having joined the coalition against the French, their country fell a prey to the invaders during the hard frost of the winter 1794-5; and the stadtholder took refuge in England in 1795. Though a separate government continued, yet the United Provinces must be considered as subject to France, which intends to incorporate the parts S. of the Rhine. The Dutch fleet has since been nearly annihilated by the English.

ANTIQUITIES.] The ancient monuments of the United Provinces are far from being numerous or interesting. The chief remain of the Roman period is the ruined tower near Catwick, about six miles N.W. from

Leyden, at the ancient mouth of the Rhine. In the middle of Leyden, upon an artificial hill, stands a round tower, fabled to have been built by Hengist who first led the Saxons to England. Among the antiquities of the two middle ages may be particularly named the church of Utrecht, with a tower of great height, commanding as it were a map of the surrounding country, and worthy of the great power of the ancient bishops of that see.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Population.—Colonies.—Army.—Navy.—Revenues.—Political Importance and Relations.*

RELIGION.] THE protestant religion, in the Calvinistic form, prevails through the United Provinces. The states of Holland, in 1583, proposed that no other form of worship should be tolerated; but this resolution was wisely rejected; and every religion is permitted, on condition that it do not oppose the fundamental laws, or teach any doctrines subversive of the state: yet employments of any consequence can only be filled by protestants\*.

ECCLESIASTIC GEOGRAPHY.] The ecclesiastical persons are considered as divided into four ranks, professors at universities, preachers, elders, and deacons: and the government of the church is administered by consistories, classes, and synods. The consistory is the lowest court, commonly consisting of the clergy and elders of a particular town, while a class consists of deputies from several, and is commonly assembled three times in the year, a part of its duty being to visit the churches, and watch over the conduct of the clergy. The synods are either provincial or national; the first being assembled every year, while the national synod is only summoned on the most important occasions, when essential doctrines are to be discussed; and the last was that of Dort, 1618.

There are, besides numerous Walloon churches, scattered through the provinces, who hold a kind of synod twice a year, composed of deputies from their own sect. The Roman catholics are supposed to have 350 churches, served by 400 priests, exclusive of some in the conquered territory. The chief other sects are the Lutherans, the Remonstrants, or Arminians, Baptists and Jews, and a few Quakers.

GOVERNMENT.] The United Provinces were composed of seven republics, each retaining its own states, consisting of nobles and burgesses. The provincial states sent deputies to the states-general, who used to assemble in a small room at the Hague, enjoying the right of peace and war, appointing and receiving ambassadors, naming the greffier, or secretary of state, and all the staff officers†. The stadtholder was originally a kind of dictator, appointed from the necessity of the times, to conduct the emancipation of the state. The necessity having vanished, this office became of dubious authority, till William III. in 1672, procured it to be declared hereditary. As he died without children, the states seized this power, till 1747, when the French penetrating into

\* Busching, xiv. part ii. p. 16.

† Ibid, xiv. p. 40, &c.

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Dutch Flanders, the rank was restored to William IV. and again became hereditary, though in recent times frequently contested. These industrious provinces were recently erected into a kingdom and assigned by the French emperor to his brother Louis; but they have since been incorporated with France.

POPULATION.] The population of the United Provinces has been recently computed at 2,758,632, and the extent of the territory in square miles being supposed 10,000, there will be 275 for each mile square. The population of Holland, the chief province, is calculated at 980,000.

COLONIES.] The Dutch, being, for a considerable time, the chief maritime power in Europe, their colonies were numerous; besides some settlements on the coast of Hindoostan, and an important establishment in Ceylon, they held, and still retain Batavia in the island of Java; but the Cape of Good Hope, and other considerable establishments, have fallen into the hands of the English, and the Dutch colonies may be considered as nearly annihilated.

ARMY.] The army was computed at about 36,000; but it is now incorporated with that of France. The navy, which used to consist of forty ships of the line, has by the events of the last war almost totally disappeared.

REVENUE.] The revenue was about three millions and a half sterling, but was greatly exceeded by the expenditure; so that the national debt was computed at about 130,000,000*l.* sterling; but 2,800,000*l.* were annually received as the interest of loans to foreign powers.

POLITICAL IMPORTANCE, &c.] The political importance and relations of the United Provinces are at present completely immersed in those of France.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Inland Navigation.—Manufactures and Commerce.*

MANNERS AND CUSTOMS.] A STRANGER visiting Holland is surprized at the extreme cleanliness observable in the houses and streets; even hamlets inhabited by poor fishermen displaying a neatness and freshness, which forms a striking contrast with the squalid appearance of the German villages. The air being always moist, and commonly cold, the Dutch dress is calculated for warmth and not for elegance. The people are of a phlegmatic temperament; and their courage at sea is rather obstinacy than ardour; while from the same cause their labour is rather slow perseverance, than impetuous strength like that of the English. In former times their knowledge was chiefly restricted to two channels; affairs of state, on which even the vulgar would converse with propriety; and the arts of getting money. But the latter at length supplanted every noble thought and generous feeling. This striking characteristic has impressed every spectator, from the days of Ray the naturalist, who visited Holland in 1663, even to the present hour. A late amiable traveller observes that "the infatuation of loving money, not as a mean but as an end, is paramount in the mind

of almost every Dutchman, whatever may be his other disposition and qualities; the addition to it is fervent, inveterate, invincible, and universal from youth to the feeblest old age \*."

The Dutch are commonly low in stature, and the women are taller than the men. Their dress is little affected by fashion. The opulent merchants delight in their villas, thickly planted among the numerous canals; and the smallness of the gardens was compensated by the richness of the miniature selection, in which perhaps one tulip root might cost fifty guineas. In the winter, skating is a favourite amusement, and the canals are crowded with all ranks, from the senator to the milkmaid with her pail, and the peasant with his eggs. But the chief amusements, in so moist a climate, are under the shelter of the domestic roof, in large and expensive collections of paintings and prints, which also have become an article of commerce and avarice.

LANGUAGE.] The Dutch language is a dialect of the German; and the Lord's Prayer runs in the following terms:

*Onse Vader die daer sijt in de Hemelen, Uwem Naem word gheheyligh. U Rijke come. Uwem Wille gheschiede op der Aerden, gelijk in den Hemel, Onse dagelijck Broodt gheeft ons beden. Eude vergheeft ons onse Schulden ghelijck wy oock onse Schuldenaren vergeven. Eude en leyt ons niet in Verfoekinghe. Maer verlost ons vanden Boosen. Amen.*

LITERATURE.] The literature of the Seven United Provinces is more respectable than that of the other Netherlands. Not to mention the ancient chronicle of the church of Utrecht, and other ecclesiastical productions of the middle ages, the great Erasmus, the restorer of letters in Western Europe, was born at Rotterdam in 1467. Johannes Secundus, or Hands de Twede, one of the most elegant of modern Latin poets, was a native of the Hague, as the renowned Grotius was of Delft. Boerhaave, the celebrated physician, was born at Voorhoor near Leyden. Dort produced Paul Merula, a distinguished antiquary, who at the beginning of the seventeenth century first discriminated the real origins of European nations. Adrian Junius, or Yung, who explored the antiquities of his native country, was of Hoorn on the Zuyder Zee. Among other eminent names may be mentioned Meursius of Laufden, Doufa of Leyden, Heinsius of Ghent, and the younger Vossius. Hoogeveen of Leyden died in 1794, after having acquired the reputation of being the first Greek scholar in Europe.

EDUCATION, &c.] The mode of education pursued in these provinces seems to have been greatly inferior to that used in Scotland, a country enjoying an ecclesiastical government somewhat similar. The Dutch youths being chiefly allotted to a sea-faring life, there was not indeed opportunity for numerous parochial schools, and consequent diffusion of common knowledge. The most celebrated Latin schools were at Rotterdam, Breda, Middleburg, Groningen, &c. The universities are five; Leyden, Utrecht, Harderwyck, Franeker, and Groningen; with two inferior colleges at Amsterdam and Deventer. There is an academy of sciences at Haarlem.

CITIES AND TOWNS.] Amsterdam, the chief city of Holland, upon the small river Amstel, is first mentioned in the thirteenth century; but in the fourteenth was reckoned among the commercial towns of Europe. About the middle of the seventeenth century, during the highest prosperity of the republic, it was enlarged by about one half. The haven is not distinguished by natural advantages, but has been improved and secured by



art; and the wide forest of masts impressed every traveller with amazement. The population is computed at about 212,000. The streets are generally narrow, and the canals feculent. The houses have the common air of neatness peculiar to those of the Dutch. The chief edifices are the state-house, founded on piles at an immense expence; the exchange, and the post-office; but some streets along the chief canals display houses of uniform grandeur. Some agreeable walks occur in the interior of the city; but the environs are chiefly visited by water; yet to the S. there is an agreeable road to Ouderkerk through pleasant gardens and groves \*.

Leyden is esteemed the next city in population, containing about 50,000 souls. It is the Lugdunum Batavorum of antiquity, and is distinguished by its university. Here the ancient Rhine almost expires in a number of small channels, which are passed by so many bridges, that the number has been computed at more than one hundred. The meadows and gardens around Leyden are remarkably productive, and there is a daily intercourse by canals with the other chief cities and provinces. The fair is still much frequented; but the university has declined.

Next is Rotterdam, with a population of about 48,000 people. There is a noble quay, with houses as handsome as any in the squares in London; and the great length of the streets is characteristic of Dutch cities, and even towns; yet they are generally narrow, and the foot pavement is only distinguished by a clean line of bricks †. In the market place stands the well known statue of Erasmus.

Haarlem is computed to contain 40,000 souls; and, like Leyden, is fortified by old brick walls. The great church is esteemed the largest in the province of Holland; but the celebrated organ is more remarkable for power than sweetness. The house of Laurence Coster, whom the Dutch fondly assert to have been the inventor of the grand art of printing, stands near the church; but impartial inquirers have decided the question in favour of Mentz.

The Hague is only esteemed a village, though the inhabitants be computed at 36,000. The court, or palace, contains several chambers allotted to the different branches of government, besides the apartments of the Stadtholder. The states-general meet in a room which contained twenty-six chairs, for the usual number of the members ‡. The cabinet of natural history has been carried to France, and probably the most curious books and pictures. The Hague is distinguished by its pleasant situation and tranquil grandeur.

Middleburg in Zealand is supposed to contain 30,000 inhabitants; and it has a large town-house, decorated with the statues of the ancient earls and countesses of Holland. It was not only the seat of the provincial states, but also of the council of Flanders, presiding over part of that country acquired by the Dutch. Utrecht, Delft, Dort, and Groningen, are supposed each to contain about 20,000 inhabitants; and among the inferior cities may be named Maastricht, the most southern of the Dutch possessions, situated on the river Maese, or Meuse, and ceded to the Dutch, after repeated contests, by the peace of Nimeguen 1678; in the vicinity are vast stone quarries supported by numerous pillars.

INLAND NAVIGATION.] To enumerate the canals of the United Provinces would be infinite, for they equal the roads in other countries; and the advantage must be the more perceived during the interruption of ma-

\* Radcliffe, i. 168.

† Ibid. i. 16.

‡ Ibid. i. 49.



ritime commerce, by the increase of the inland trade with Germany, the southern Netherlands, and France.

**MANUFACTURES AND COMMERCE.]** The chief manufactures of Holland are linens, many of which however are made in Silesia; pottery, and painted tiles, especially at Delft; leather, wax, snuff, sugar, starch, paper, besides some of woollen, cotton, and silk\*. But the most precious branch of commerce consisted in spices and drugs, brought from the settlements in the East Indies; and the Dutch East India company was, for a considerable time, the greatest mercantile firm in Europe. The fishery in the Northern Seas, and even on their own and the English coasts, was also an object of great commercial importance. Latterly perhaps the chief advantage was derived from Holland being the grand deposit of commerce between Great Britain and the continent, particularly Germany and France. The inland trade with Germany, by the canals and the Rhine, is almost the only branch which has escaped the ravages of war. Of this the most remarkable feature consists in the vast floats of timber, which arrive at Dort from Andernach, and other places on the Rhine, whose copious stream received the trees of the German forests. The length of these rafts is from 700 to 1000 feet, the breadth from 50 to 90; and 500 labourers direct the floating island, which is crowned with a village of timber huts for their reception. The navigation is conducted with the strictest regularity: and on their arrival at Dort the sale of one raft occupies several months, and frequently produces more than 30,000*l.* sterling†. The other branches of inland traffic are numerous; and the Rhine may be said to supply Holland with insular advantages, secure from the destructive inroads of maritime war.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** **H**UMIDITY and cold are the chief characteristics of the climate of the United Provinces. The general face of the country is that of a large marsh which has been drained; the canals, and even the sea, looking pale and discoloured by mud; but the numerous and important cities and towns excite admiration, and the most dignified ideas of the wonderful powers of industry, which seems to have selected a chief seat amidst the greatest natural disadvantages. And even among these marshes the eye is relieved by the groves, gardens, and meadows; and to the east of Utrecht the woods and hills gently swell towards Germany. Yet the east of Dutch Brabant is still disfigured by the large morafs of Peal, extending about 30 British miles in length: Over-Yssel, so called from its western boundary of the Iffel, which received the canal led by Drusus from the Rhine, is almost wholly composed of enormous marshes and heaths; and the morafs of Bourtang rivals that of Peal in extent. The northern provinces of Friesland and Groningen, (parts of the ancient Frisia which included also the principality of east Friesland now be-

\* Marshall, vol. i. 223—155.

† Radcliffe, ii. 114.

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longing to Prussia,) present towards the S. and S.E. extensive heaths; while the parts towards the sea rival the morasses of Holland. Thus the whole country may be said to display an intimate combination of land and water; and the few elevations commonly consist of barren sand.

**SOIL AND AGRICULTURE.]** The agriculture of such provinces cannot be expected to be considerable, the land being mostly under pasturage, except a few crops of madder, and tobacco, which are cultivated with great predilection\*. The pasturages in the north of Holland, especially those of Bemster, and in Friesland, supply such quantities of excellent butter, as to become a staple article of commerce. The cows seem to have been originally from Holstein, and the utmost attention is paid to warmth and cleanliness, so that even in summer the animals appear in the meadows clothed with ludicrous care†.

**RIVERS.]** The chief rivers of the United Provinces are the Rhine and the Meuse; the latter here receiving at its estuary the Aa, joined with the Domel from the S.; and from the N. that great outlet of the Rhine called the Waal: and near 40 British miles farther to the W. the second grand outlet of the Rhine, called the Leck, joins the Meuse, after which but a small stream passes by Leyden to the German ocean. The principal river falling into the Zuyder Zee is the Iffel, which rises not far to the S.W. of Munster, and after receiving the canal of Drusus near Duisberg becomes a considerable stream. On the N. of this is the small estuary of Wecht, which rises to the N. of Munster. The rivers of Friesland and Groningen are so diminutive that they are mostly lost in the numerous canals before they join the sea.

**LAKES.]** The lakes are of small extent, if we except what is called the sea of Haarlem, on the N. of which is the Y, a broad piece of water passing by Amsterdam, rather wearing the semblance of a creek of the sea, than of a river. There are other small lakes in the N. of Holland, and in Friesland and in Groningen: not to mention some amidst the marshes of Over-Yffel.

ure.—*Rivers.*  
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**PROGRESSIVE GEOGRAPHY.]** Of mountains there is not the most distant semblance; and even the few hills towards the E. may more properly be denominated little elevated tracts of sand.

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**BOTANY.]** When it is considered that the Batavian territory is destitute of wood-lands, of mountains, and of limestone districts, it will easily be perceived in what respects its flora is inferior to that of Britain; we should search in vain among the swamps, the level meadows, or the sandy heaths of Holland for the numerous species of orchideæ, and of papilionaceous plants that inhabit the beech-woods of Sussex and Kent, or the open chalk downs of the southern and midland counties; and though the bleak heaths of Gelder and Over-Yffel may furnish a few of our mountainous plants; yet those that dwell by the rushing torrents of Wales and Scotland, that fix themselves to the rocky bottom of our pellucid lakes, or flourish in the cloudy solitude of Snowden, of Skiddaw, or of Ben Nevis, are wholly wanting in the list of indigenous Batavian vegetables. The only plants possessed by Holland which are not found in the British islands are certain aquatic plants, natives of the Rhine, and other waters in the province of Holland; and campanula persicifolia, evening primrose, and a few more growing on the frontiers of Brabant and Westphalia.

**ZOOLOGY.]** In the zoology of the United Provinces there is nothing peculiar, or worthy of remark; the horses are chiefly from England and

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\* Marshal, i. 264.

† Ibid. i. 97.

Flanders,

Flanders, the oxen from Holstein. The stork is here frequent, though unknown in England. The shores abound with excellent fish, particularly turbot and soals.

**MINERALOGY.]** Minerals are unknown, if we except the slight incisions for peat; which the Dutch not only procure from the morasses, but also from the bottoms of the river, by dragging up the mud, which is exposed to dry on the shore, then cut into small pieces and again dried for use. No medical waters are here known; and there are few uncommon appearances of nature, though the whole country may be deemed an artificial curiosity, from the number of canals, and from the vast dykes erected to exclude the sea.

## DENMARK.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**NAMES.]** THE name of Denmark, implying the marches, boundaries, or territories, of the Danes, is derived from the inhabitants who are first mentioned by this appellation in the sixth century, when we begin to acquire a faint idea of Scandinavia from the history of Jornandes. Norway, anciently Norrick, or the northern kingdom, affords a palpable and precise derivation.

**EXTENT.]** These kingdoms, which in former times have, by repeated emigrations, changed the destinies of a great part of Europe, and continue deeply to interest the student of history, constitute a singular expansion of territory. For from the river Elbe, in the south, to the northern extremity of Danish Lapland, and the wild environs of the river Tana, may be computed, after excluding the entrance of the Baltic, an extent of not less than 1400 British miles in length, by a medial breadth of only 150. Of this great length, Denmark occupies about 260 miles, while the remainder belongs to Norway. This extent of coast might be supposed to constitute a formidable naval power: but unfortunately the havens are neither numerous nor important, and are better adapted to the fleets of small vessels which formerly struck Europe with dismay, than to the pomp and magnitude of modern navigation. To the south the Danish province of Holstein borders on the wide territories of Germany; on the east, west, and north, Denmark is surrounded by the sea. The eastern limits of Norway are chiefly indicated by a long chain of mountains, passing between that country and Sweden.

**DIVISIONS.]** The territories subject to the crown of Denmark are divided into the following provinces:

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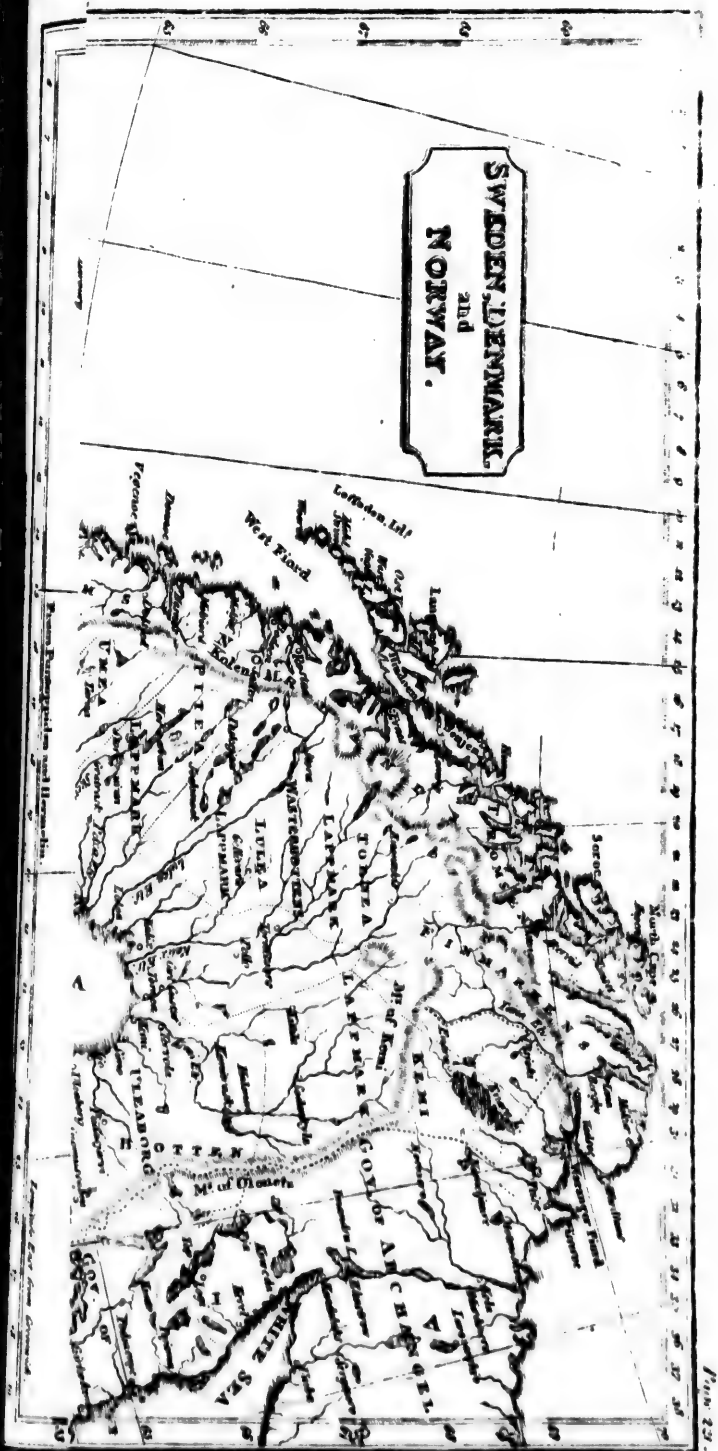
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6. Christianfand.
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8. Bergen.
9. Drontheim.
10. Norland.
11. Finmark.
12. Isle of Iceland.
13. Isles of Faroe \*.

**ORIGINAL POPULATION.]** The original population of Denmark appears to have consisted of Cimbri, or Northern Celts, the ancestors of our Welsh; and who in particular held the Cimbric Chersonese, or modern Jutland and Sleswic. On the progress of the Goths from the N. and E. the Cimbri were expelled. Yet the Chersonese continued to retain their name, while possessed by seven Gothic tribes, among which were the Angli, who afterwards gave appellation to England, and who appear to have resided in the eastern part of Sleswic, where there is still the province of Anglen. The original possessors of Norway, which, with Sweden, constitutes the ancient Scandinavia, appear to have been the Fins and the Laps, who were driven to the northern extremities by the Gothic invasion, allegorically said to have been conducted by Odin the God of War. The population has since continued pure and unmixed by foreign conquests; and the Norwegians still retain the muscular frame, blooming countenance, and yellow hair of the Normans, so well known in France, Italy, and England.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of Denmark may be traced with some precision from the first mention of the Cimbric Chersonese by astonished Rome. Tacitus describes the *Suiones*, ancestors of the Danes, as constituting states situated in the sea, that is in the islands of Zealand, and others which still form the seat of Danish power †. He adds that they had fleets, their ships being of a singular form, capable of presenting either end as a prow; that they had acquired wealth, and were ruled by a monarch. The progressive geography of Denmark may afterwards be illustrated from various passages, especially from Jornandes, and the Francic historians, till Adam of Bremen, in the eleventh century, gave a minute description of the country, and their own historian Saxo Grammaticus composed his classical work about the year 1180.

The geography of Norway, as may be expected, is more obscure; nor is there reason to believe that any part, except its most southern extremity, had been seen by the Roman mariners. Few materials even afterwards arise for the progressive geography of this country, till the time of Jornandes; whose account is succeeded by the navigation of Ohter reported to the great Alfred, and the description by Adam of Bremen.

The chief historical epochs of these conjunct kingdoms must be separately considered, till their union in the fourteenth century.

**HISTORICAL EPOCHS.]** 1. The most ancient population of the continental part of Denmark by the Cimbri.

2. The conquest by the Goths, who appear to have proceeded from Scandinavia into the Isles and Jutland, as the dialect differs greatly from the German Gothic, while it is a sister of the Swedish and Norwegian.

3. The Roman and Francic accounts of Denmark, from the time of Pliny and Tacitus to that of Charlemagne.

\* This spelling is not only more just, but serves to distinguish them from the Isle of Ferro.  
† Germ. c. 44.

4. The fabulous and traditional history of Denmark, which extends from about the year of Christ 500 to the reign of Heriold, mentioned by the Francic historians in the time of Charlemagne.

5. The conquest of Denmark by Olaf II. king of Sweden, about the year 900.

6. The more certain history commences with Gurm, or Gormo, A. D. 920, but there seems no evidence whether he sprung from a native race, or from the Swedish or Norwegian. Gormo is succeeded by his son Harald Blaataand 945, who is followed by his son Swein, 985, well known by his invasion of England, where he in some measure usurped the sovereignty, and died A. D. 1014.

7. The reign of Canute the Great, king of Denmark, England, and Norway. The conversion of Denmark to Christianity had commenced in the beginning of the ninth century; but Christianity was far from being universal there till the reign of Canute the Great, when it was followed by its universal consequences, the cessation of piracy and rapine, and the diffusion of industry and civilization.

8. The reign of Waldemar, surnamed the Great, A. D. 1157, who defeats the Wends, or Slavonic inhabitants of the southern shores of the Baltic in many battles, and subdues the isle of Rugen. Hence followed slowly the conversion of Pomerania, and of the countries on the east. Waldemar is regarded as the parent of the Danish laws.

9. The marriage of Hakon VI. king of Norway, with Margaret daughter of Waldemar III. king of Denmark, A. D. 1363, produced the memorable union of the three crowns of the north. On the death of her young son, Margaret ascended the throne of Denmark and Norway in 1387, and that of Sweden in 1389. Her husband, Eric of Pomerania, reigned about 26 years after her death; and was followed by Christopher of Bavaria, who removed the royal residence from Roskild to Copenhagen.

10. The accession of the house of Oldenburg, in the person of Christiern I., A. D. 1448. The repeated revolts of Sweden were suppressed by his successor John, who was crowned at Stockholm in 1497.

11. The tyrannical and unhappy reign of Christiern II., when Sweden was emancipated by the efforts of Gustaf Wase.

12. The abolition of the Roman Catholic religion by Christiern III., 1537; but the Lutheran had been already introduced in 1526.

13. The reigns of Christiern IV. and his successor Frederic III., who was constrained to sign a treaty in March 1660, by which he abandoned to Sweden the valuable province of Scone, and other parts in the south of Scandinavia, which had long remained in the possession of the Danes, together with the fertile island of Rugen.

14. The memorable revolution of the 23d October 1660, by which the crown was declared absolute and hereditary. The subsequent events have been little memorable.

Of the Norwegian history the chief epochs may be considered in the following order:

1. The original population by the Fins and Laplanders.

2. The conquest by the Goths.

3. The reduction of all the petty monarchies into one kingdom by Harald Harfagre about A. D. 910. During the contest many discontented princes and nobles left the kingdom; and among others Ganga Hrolf, or Rollo the Walker, proceeded to France; where, in the year 912, the province afterwards styled Normandy was surrendered to him and his warlike followers.

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4. The reign of Olaf I., when Norway and Iceland were converted to Christianity. Greenland had been discovered A. D. 982, by Eric the Red, and his attendants, from Iceland; which island was itself peopled from Norway 874—880. In the reign of Olaf I., Vinland, or Wine-land, a more southern part of N. America, was discovered by Biarn, and by Leif, son of Eric the Red, A. D. 1003. The little colony, settled in Vinland about 1006, perished from intestine divisions. The country was so called from some wild grapes or berries; and is supposed to have been on the coast of Labrador, or more probably the island of Newfoundland.

5. The invasion of England by Harald III., who was slain in a battle against Harold king of England, on the 25th of September, 1066.

6. Magnus II., in the year 1098, subdued the Orkneys and Hebudes, which had been subject to the Normans from about 850; but the earls had refused homage to the Norwegian kings.

7. The Hebudes, or western islands, were surrendered to Scotland, A. D. 1266, by Magnus V.; but the Orkneys continued to be regarded as subject to Norway till the year 1468. Iceland, which had existed as an independent republic, about this time became subject to Norway\*.

8. The final union of Norway with Denmark A. D. 1387.

ANTIQUITIES.] The ancient monuments of Denmark and Norway are chiefly what are called Runic; though it be not clear at what period the use of the Runic characters extended so far to the north. Circles of upright stones are common in all the Danish dominions; in Iceland their origin is perfectly ascertained, as some were erected even in recent times of the Icelandic republic, being called Domhring, or Circles of Judgment. Monuments also occur of the other forms imagined by our antiquaries to be Druidic. The churches of Bergen and of Drontheim were both built of stone in the eleventh century. The residences of the chiefs appear to have been generally constructed of wood, for there are few ancient castles to be found in Denmark or Norway.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Population.—Colonies.—Army.—Navy.—Revenue.—Political Importance and Relations.*

RELIGION.] THE religion of Denmark and Norway is the Lutheran. There is no archbishop; but the bishops are twelve, six in Denmark, four in Norway, and two in Iceland. The chief see is that of Zeeland, which yields about 1000*l.* a year; the other clerical orders are provosts, or archdeacons, parish priests, and chaplains. The parochial clergy are maintained by their glebes, tithes, and surplice fees; but in Jutland some of the livings do not exceed 20*l.* a year.

GOVERNMENT.] Since the revolution of 1660, the Danish government has been an absolute monarchy. That revolution was produced by the

\* Torf, Hist. Nor. iv, 394.

obstinacy of the nobility, and consequent enmity of the clergy and burghesses who perceived no other means of humbling their adversaries.

**LAWS.]** The Danish government has however been generally conducted with mildness and moderation; and their regal acts pass through many councils, who carefully observe the legal forms. The laws are chiefly comprised in the code of Christiern V., who reigned in the end of the seventeenth century.

**POPULATION.]** The population of the Danish dominions is computed at two millions and a half; though there seems little room to infer that it yields to that of Sweden. If we suppose the square contents to be about 180,000 miles, there will only be 12 inhabitants to the square mile. Norway is not supposed to contain more than 700,000 souls, nor Iceland above 50,000, the former only yielding six, the latter one to the square mile.

**COLONIES.]** Denmark possesses some small colonies, as Tranquebar on the coast of Coromandel, Christiansburg on the coast of Guinea, a small part of Greenland in America; with three islands in the West Indies, St. Jan, St. Thomas, and St. Croix, of which the latter was purchased from France in 1733.

**ARMY, &c.]** The army of this kingdom is computed at 70,000 men, of which Denmark supplies about 40,000, and Norway the remainder. The navy, prior to the late engagement with the English off Copenhagen, consisted of 33 ships of the line, manned by about 11,000 seamen, and 5000 marines; but has since been reduced by the English unprecedent assault, which displayed an equal contempt of Christian justice and sound policy, and only served to ruin our influence in the north of Europe.

**REVENUE.]** The annual revenue is computed at about one million and a half sterling, being superior to that of Sweden. Denmark contributes 543,554*l.*; Norway 290,000*l.*; Sleswic and Holstein 300,000*l.*; the West Indian islands 262,000*l.*; the toll levied upon ships passing the Sound 122,554*l.*; Altona 3,150*l.* The expences of the state amount annually to about 1,050,000*l.*; and it is burthened with a debt of 2,600,000*l.*\*

**POLITICAL IMPORTANCE AND RELATIONS.]** Denmark and Norway have long ceased to be objects of terror to the southern powers, and centuries have elapsed since any of the monarchs has been distinguished in war; while the Swedes, on the contrary, have maintained their martial spirit. A timid policy has long united this monarchy in alliance with Russia, as a mean of security against Sweden; but more wisdom would appear in a firm alliance with Sweden and Prussia against the exorbitant power of the Russian empire. At present Denmark is in strict alliance with France, which has reversed the government of Sweden.

\* Boetticher's Tables.

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\* Coke, v. 9.  
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## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.  
—Cities and Towns.—Edifices.—Roads.—Inland Navigation.—Manu-  
factures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the superior Danes differ little from those of the same classes in other parts of Europe. The peasantry continue in a state of vassalage: except those of the crown, who have been recently delivered by the patriotism of the heir apparent, and a few other instances. They are of course idle, dirty, and dispirited. In Norway on the contrary, every peasant breathes the air of freedom, except those of a few noble estates near Frederickstædt. The Norwegian peasants are spirited, frank, open, and undaunted, but not insolent; in the comforts of life they seem to yield to none, except some of the Swifs: their usual dress is of a stone colour, with red button-holes, and white metal buttons; and the women often appear only dressed in a petticoat and shift, with a close collar round their throat, and a black sash. Their usual bread, like that of the Scotch peasantry, consists of flat cakes of oatmeal: which in times of great scarcity is mingled with the white inner rind of trees\*.

**LAPLANDERS.]** At the farthest northern extremity of Norway is the region of Finmark, or more properly Lapmark, being a large province possessed by the Danish Laplanders, and extending even to the east of Cape Nord, towards Russian Lapland. The inhabitants of this wild and remote province have been described at considerable length by Leems, who has presented a complete and faithful picture of Laplandic manners†. This singular race of men is of a small size, generally about four feet, with short black hair, narrow dark eyes, large heads and high cheek-bones, a wide mouth and thick lips, and a swarthy complexion. In the southern part of Finmark they are mingled with Norwegians; but the northern wilderness is wholly their own. They call themselves *Same*, their speech *Sams-giel*, and their country *Same Edna*, being probably of the same race as the Samoides. Towards the shore they build huts; and on the mountains use tents of a flatly conic form, and divided by several rude partitions into apartments for themselves, their servants and cattle. The sun is here absent for seven weeks; yet from ten in the forenoon to one in the afternoon there is a kind of twilight even in the shortest days, so that one may read without a candle; but the stars are very visible, and the moon, when apparent, shines all the day. In return, the sun never sets for seven weeks of summer; but his beams are dull and remiss in the night, when he assumes a ruddy hue. The rivers supply salmon and other fish, a considerable part of the Laplandic food; but at a festival are seen mutton or rein deer, and mead. The men wear conic red caps lined with fur, and a kind of robe of cloth or skin; the poor sometimes using that of salmon, which appears like a white shagreen. Till recent times they were immersed in paganism, regarding particular mountains and rocks as holy:

\* Coxæ, v. 9.

† Leemius de Laponibus Finmarchiæ. Copenhagen, 1767, 4to. Scheffer treats of the Swedish Laplanders: of the Russian there seems no ample account.

their



their chief god was Radien, who dwelled in the starry heaven; in the lower aerial regions were Beivi or the sun, with Horangalis or the thunderer, and other divinities.

Amidst the conversion of the northern nations to Christianity, the Laplanders have been unaccountably neglected. Eric Bredal, bishop of Drontheim, made some vain attempts about the year 1660; but the royal mission was not founded till 1714. Since that period the missionaries have exerted themselves with great success.

The manners and customs of the Greenlanders shall be considered in treating of North America.

The people of Iceland being of Norwegian extract have few peculiar manners, but retain more of the ancient dress and customs of their ancestors. They are constrained to prepare flour from various plants described by Von Troil, and their chief animal nutriment is dried fish; the common beverage is syra or four whey, kept in casks and left to ferment, beer being scarce.

[LANGUAGE.] If we except the Laponic, the languages spoken in the Danish dominions are all sister dialects of the Gothic. The Icelandic is the most ancient and venerable; and being esteemed the most pure dialect of the Gothic, has engaged the attention of many profound scholars, who have considered it as the parent of the Norwegian, Danish and Swedish, and in a great degree of the English, though it would seem that this last is more connected with the Frisic, and other dialects of the north of Germany. In the ancient Icelandic the Lord's prayer is as follows:

*Fa'lor uor som est i Himlum. Halgad warde thitt nama. Tilkomme thitt Rike. Skie thinn Vilie so som i Himmalam so och po lordanne. Wort dachliche Brodth gif os i dagh. Och forlat os uora Skuldar so som igh vi forlate them os Skildighe are. Oh inled os ikkie i Frejstalsun. Utan frels os ifra Ondt. Amen.*

In the Finnish it is as follows:

*I sa meidan joca olet tairwassa. Pyhitetty oleon sinum Nimes. Lahes tulcon sinum Waldacundas. Oleon sinum tabtos niin maasca cuin tairwassa. Anna meille tanapaiwana meidan joca parwainen leipam. Sa anna meille meidan syn-dim andexi nuncuin mekin andex annam meidan welwottiffen. Ja ala iah data meita kinsauxen. Mutta paasta meita pabasta. Amen.*

And thus in the Laplandic:

*Aiki mijam juco lee, almenffne. Ailis ziaddai tu Nam. Zewigubatta tu Ryki. Ziaddus tu Willio nankuchte almefne nau ei edna mannal. Walde mijai udni mijan fert pefwen luibebm. Jah andagastoite mi jemijan suddoid naukuchte mije andagastoitebt kudi mije welgogas lien. Jah siffalaidi mijabni. Aele tocko kackzallebma pabast. Amen.*

It will hence appear that the Laplanders have borrowed some terms from the Gothic, as well as from the Finnish.

[LITERATURE.] The literature of Denmark cannot aspire to much antiquity, having followed, as usual, the introduction of Christianity, which was not established till the eleventh century. In the next century lived Saxo Grammaticus, whose history of Denmark abounds with fable, but whose style and manner are surprizingly classical for that age. His contemporary or predecessor, Sveno, is more veracious and concise, and is esteemed the father of Danish history. Norway cannot boast of a native writer, till a recent period. But it is a truly singular circumstance in the history of European literature, that letters highly flourished in the remote republic of Iceland, from the eleventh to the fourteenth century; and, independent of the fabulous Sagas, which might be counted by hundreds, the solid and valuable works then pro-

duced

duced in that island might fill a considerable catalogue. From Iceland we derived the Edda, and our knowledge of the ancient Gothic mythology. From Iceland the Swedes, Norwegians, Danes, and Orcadians drew their chief intelligence concerning their ancient history, Snorro in particular being styled the Herodotus of the north: and the Landnama, or book of the origins of Iceland, is an unique work, displaying the names and property of all the original settlers, and the circumstances attending the distribution of a barbaric colony.

After the restoration of letters, Denmark continued to maintain her wonted ascendancy over Sweden; and the name of Tycho Brahe is yet celebrated; but his little isle of Hwen, noted for his astronomical observations, now belongs to Sweden. The botany of Denmark has been illustrated by Ceder; and Niebuhr is distinguished as an intelligent traveller: but in the other parts of science and literature there seems to be a deplorable deficiency.

**EDUCATION.]** The silence of travellers and geographers concerning the modes of education pursued in different countries has been more than once regretted in this work; but the materials are not equally deficient concerning Denmark. Each parish is provided with two or three schools, where children are taught to read and write their native tongue, and the principles of arithmetic: the schoolmasters are allowed about 12l. a year, with a house, and some other advantages\*. There are besides many Latin schools maintained at the royal expence; 16 in Holstein; 11 in Sleswic; 19 in Denmark Proper, or Jutland, and the isles; but only four in the wide extent of Norway; and two in Iceland. There is also a special seminary for the Laplanders at Bergen: and at Soroe, Odensee, and Altona, there are superior academies of education.

**UNIVERSITIES.]** The universities are at Copenhagen and Kiel. The Royal Academy of Sciences was founded in 1742, but has been more distinguished in natural antiquities than natural history. In 1746 was founded the society for the improvement of northern history, also styled the royal society of Icelandic literature. There is another respectable institution at Drontheim, styled the royal society of sciences. These foundations confer honour on the Danish government, and will doubtless contribute to diffuse science and inspire emulation.

**CITIES AND TOWNS.]** Copenhagen, the chief city of Denmark, stands on the eastern shore of the large and fertile island of Zealand, about 25 British miles to the south of the noted sound, where the vessels that visit the Baltic pay a small tribute to Denmark. It is the best built city in the north; for, though Petersburg presents more superb edifices, yet Copenhagen is more uniform; the houses being mostly of brick, but a few of freestone from Germany†. The streets are rather narrow, but are well paved. This city only became the metropolis in 1443, being formerly an obscure port, whence it retains the name of Kiøbenhavn, or the harbour of the merchants, and it has little claim to antiquity. The royal palace, which was a magnificent pile, was consumed by fire a few years ago; and the city suffered dreadfully from the same cause in 1728. It is regularly fortified, the circumference being between four and five miles, and the inhabitants about 90,000. The harbour is spacious and convenient, having on the south the isle of Amak, peopled by the descendants of a colony from

\* Cox, iv. 37. v. 107.

R

† Ib. v. 126.

East

East Friesland, to whom the island was granted by Christiern II. to supply his queen with vegetables, cheese and butter; a destination still retained. The magistrates are appointed by the king; but the burghesses have deputies to protect their rights.

Next in dignity, though not in population, is Bergen, the capital of Norway, founded in the year 1070. It is seated in the centre of a valley, forming a semicircle round a small gulph of the sea. On the land side it is defended by mountains, and on the other by several fortifications. All the churches and many of the houses are of stone. The castle and cathedral are remarkable edifices. The chief trade is in fish, hides, timber, &c.; and Bergen was formerly connected with the Hanseatic towns. It retained the right of striking money till 1575. This city, being chiefly constructed of wood, has been exposed to repeated conflagrations. The population is computed at 19,000\*.

The third city of Denmark, and indeed the second in population, is Altona on the Elbe, within a gun-shot of Hamburg, originally a village of the parish of Ottersen; but in 1640 it became subject to Denmark, and was constituted a city in 1664. In 1713 it was almost entirely reduced to ashes by the Swedes; but its commerce was afterwards so much fostered by the Danish sovereigns, as a diminutive rival of Hamburg, that it is computed to contain 25,000 inhabitants†.

Christiana, in the south of Norway, must also be named among the chief towns, though it only contain 10,000 souls. It stands in the midst of a fertile country; and is by some esteemed the capital of Norway, because it contains the chief court of justice, and is unquestionably the most beautiful town in that kingdom. It was founded by Christiern IV. in 1624, after Opslo was consumed by accidental fire, Christiana being situated in the midst of iron and copper mines, and not far from the celebrated silver mines of Kongsberg, the export of metals is considerable; but tar and deals form the chief articles. The deals are mostly sent to England; the red wood being produced from what is called the Scotch fir, and the white from the spruce fir‡.

Drontheim, about 270 British miles to the N. of Bergen, was anciently called Nidaros. The inhabitants are only computed at 8000; but as this is the most northern city in Europe except Tornea, the population cannot of course be great. Drontheim is situated on the river Nid, whence it derived its name, and was founded in the year 997, being the residence of the ancient kings of Norway, and afterwards an archbishoprick, suppressed at the reformation. Of the cathedral the choir alone remains. There is some commerce in wood, fish, tallow, and copper from the mines of Medal and Roras.

**EDIFICES.]** The chief public edifices are in the cities. The castle and palace of Cronberg, and the two other royal villas in Zealand, do not merit a particular description, the buildings and gardens being generally in an antiquated taste. The roads in Denmark and Norway were, till lately, much neglected, and formed a striking contrast with those of Sweden.

**INLAND NAVIGATION.]** The chief inland navigation of Denmark is the canal of Kiel, so called from a considerable town in the north of Holstein. This canal is intended to unite the Baltic with the river Eydar, which flows into the German sea. The extent of this important

\* Bülching, l. 969.

† Ib. ii. 69.

‡ Bülching. Cox.

canal is about 20 British miles and a half; the breadth 100 feet at top, and 54 at bottom; the least depth is about 10 feet, so as to admit vessels of about 120 tons\*. It was begun in July 1777, and was finished in 1785.

**MANUFACTURES AND COMMERCE.]** The manufactures of the Danish dominions are few and unimportant. Several have been recently encouraged by the crown, which has paid more attention to commerce and agriculture than to the arts and sciences. The chief exports of Denmark consist of native products. Jutland, with the isles Sleswic and Holstein, generally export corn to a considerable amount; and the horses and cattle of the latter province furnish a supply to Holland. The chief products of Norway are wood, hides, (chiefly those of the goat,) with silver, copper, and iron; while Iceland exports dried fish, falcons, and hawks, and eiderdown. The commerce of this kingdom has been greatly improved since the acquisition of Altona, and the opening of the Kiel navigation. The colonies in the East and West Indies, also, supply some resources.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE kingdom of Denmark Proper, consisting of those ancient seats of the Danish monarchy, the isles of Zealand, Funen, Laland, and Falster, with others of inferior size; and the extensive Chersonese or peninsula, which contains Jutland, Sleswic, and Holstein, may be considered as possessing a humid and rather temperate climate. Yet the winter is occasionally of extreme severity, and the sea is impeded with ice. Norway, chiefly extending along the west side of the Scandinavian Alps, exposed to the vapours from the Atlantic, is not so cold a region as might be conceived. Finmark indeed feels the utmost rigour of winter; while in Iceland, on the contrary, that season is unexpectedly moderate, so as generally to permit the natives to cut turf even in January.

**FACE OF THE COUNTRY.]** The aspect of such wide and detached regions may be conceived to be greatly diversified. The isle of Zealand, which is about 200 G. miles in circumference, exclusive of the windings and indentations of the coast, is a fertile and pleasant country, with fields separated by mud walls, cottages either of brick or white-washed, woods of beech and oak, vales, and gentle hills. The same description will apply to Funen, which is about 140 G. miles in circumference, and which, Mr. Marshall says, is as well cultivated as most of the counties in England. Holstein and Sleswic are also level countries; and though Jutland present many upland moors, and forests of great extent, especially towards Aalborg, or in the centre of the northern part, yet there are fertile pastures; and the country, being marshy and not mountainous,

\* COPE, v. 301.

might be greatly improved. Norway is on the contrary perhaps the most mountainous country in Europe; but in the south there are tracts of great fertility, and, though often rocky, the soil is rich. "The face of the country is prettily sprinkled with numerous lakes and rivulets, and thickly dotted with cottages, rudely though not unpleasantly situated on rocky eminences, in the midst of the luxuriant forest \*." The Norwegian Alps are frequently covered with dark forests of pines and fir; and the perpetual snow of the peaks is not accompanied with the glaciers, and other terrors of the Alps.

**SOIL AND AGRICULTURE.]** In Holstein, and the south of Jutland, the agriculture may be compared with that of England; the fields are divided by hedges and ditches in excellent order, and sown with corn and turnips. Farther to the north, cultivation is less perfect. In Norway the portion of arable ground is scanty, and far from sufficient to supply the consumption. That mountainous country is however abundant in pasture and cattle; which, as in Swisserland, are driven to the heights in summer; and a patriotic society has so much encouraged agriculture, that within these fifty years estates have risen near one third in value †. In the extensive island of Iceland there is not much room for agriculture; which has however greatly declined since the period of the republic, when treatises were written on this interesting subject.

**RIVERS.]** In the kingdom of Denmark Proper, the rivulets are numerous; but scarcely a river of any note except the Eydar, the ancient boundary between Denmark and Germany. Towards the north of Jutland an extensive creek of the sea, called Lymfiord, penetrates from the Cattegat to within two or three miles of the German sea, navigable, full of fish and containing many islands ‡. There are several other creeks, which are by the Danes styled Fiords, or Firths, but scarcely another river worth mentioning.

In Norway, as in Sweden, the largest rivers are called Elven or Elben. Those that rise in the Alpine chain, and run towards the west, have in consequence but a short course; and the chief ports, as in the west of Scotland, are supplied by creeks or inlets of the sea, with a great depth of water. The chief river of Norway is the Glom or Glomen, which is not navigable, but full of cataracts and shoals; yet about 50,000 trees are annually floated upon it to Frederickstad. Before it receives the Worm from the lake Miosf, it is as broad as the Thames at Putney §, and its rugged course must render it a tremendous torrent. It springs from the lake of Oresund on the north of the Fæmund, and runs nearly south about 300 British miles.

Next may be named the Dramme, which flows into the west side of the bay of Christians, having received the Beina, and other considerable streams. Less remarkable rivers in the south of Norway are the Louven the Torrisdals which runs by Christian Sand, and others flowing from numerous lakes. In Finmark the most considerable river is the Tanar which is followed by the Alten; both rising in the mountains to the north of Swedish Lapland, and flowing into the Arctic ocean.

**LAKES.]** The lakes in the Danish dominions are numerous, the most extensive being in the south of Norway. The lake of Miosf is about 60 British miles in length, but the breadth is in general little considerable except towards the centre, where it is from 12 to 18 miles: it contains an island about ten miles in circumference, fertile in corn, pasture, and

\* Coxe, v. 31.

† Ib. 18.

‡ Buxfing, l. 298.

§ Coxe, v. 62.

\* Coxe, 39.

† Or 18,000 feet



wood\*. Next is the lake of Rands or Rands-Sion, which is near fifty miles in length, but not more than two in breadth. The lake of Tyri is a beautiful piece of water, about fifteen miles in length and breadth, diversified with many bays and creeks: the environs are delightful, consisting of corn fields, fertile meadows, and hanging forests, backed by lofty mountains towering above each other†. Farther to the north is the large lake of Fœmund, about 35 British miles in length by 8 at its greatest breadth: this lake is celebrated by Bergman as being surrounded by mountains of great height.

**MOUNTAINS.]** In the kingdom of Denmark Proper there are no heights which can aspire to the name of mountains: but Norway is almost wholly an Alpine country. The grand chain, which divides that kingdom from Sweden, is known by distinct appellations as it passes through different provinces.

In a general point of view, the southern part of the Scandinavian chain, running nearly N. and S., and terminating at the province of Romfdal, is called **LANGFIALL**, or the Long Mountains. Hence the part called **DOFRFIALL** extends towards the east, ending above the lake of Aursund or Oresund; where it again proceeds almost due north. Here also a considerable branch proceeds by Swucku, &c. towards Sweden. The third part of the range, from the north of Oresund and the vicinity of the copper mines of Røra, is called the chain of **KOLEN**, extending between Norway and Swedish Lapland, and afterwards bending, in the form of a horse-shoe, on the south of Finmark‡.

The height of these mountains was as usual extremely exaggerated, and compared with the Swiss Alps, till more exactness was introduced into orology. Mr. Pennant§ affords the most recent information on the subject. "Mr. Ascanius, professor of mineralogy at Drontheim, assures me that, from some late surveys, the highest in the diocese are not more than 600 fathoms above the surface of the sea; that the mountains fall to the western side from the distance of eight or ten Norwegian miles||; but to the eastern from that of forty. The highest is **Dovreñæl** in Drontheim, and **Tile** in Bergen. They rise slowly and do not strike the eye like Romfdal-horn and Hornalen, which soar majestically from the sea. Professor Ritzius of Lund acquaints me that **Kinneulle**, in Westro-Gothia, is only 815 English feet above the lake Wenern, or 931 above the sea. He adds that the following have been only measured to their bases, or to the next adjacent waters: **Areskutan**, a solitary mountain of Jæmtland, about four or five Swedish miles from the highest Alps which separate Norway and Sweden, is said to be 6162 English feet above the nearest rivers; **Swuckustøet** within the borders of Norway, 4658 above lake Fœmund, and that lake is thought to be 2 or 3000 above the sea; and finally **Sylfiællen**, on the borders of Jæmtland, is 3132 feet perpendicular from the height to the base. By some late experiments the highest mountains of Sweden, between lat. 63 and 64° have been found to be 6652 feet above the surface of the Baltic\*\* ; but no trees will grow on them at little more than half that height."

The construction of the Norwegian mountains has been little explored, nor is it understood whether the chief heights be calcareous like those of the Pyrenees, or granitic, as is rather to be conceived. Some considerable mountains consist of sandstone. Norway abounds in beautiful marbles of various kinds, whence it appears that a considerable part is calcareous.

\* Cox, 59.

† Ibid. 53.

‡ Busching 1. 378.

§ Arctic Zoology, l. cviii.

|| Or 18,000 feet each.

\*\* "Mr. Torsten in Act. Reg. Ac. Holm."

§ Cox, v. 62.



Lapis ollaris is found in great quantities, and with it were built the cathedral of Drontheim and other edifices\*. This is generally found in the vicinity of granite.

**FORESTS.]** There are some woods in the Danish isles, and forests in Jutland. The Norwegian mountains are generally clothed with pines and firs; and almost the whole country may be regarded as a forest, which supplies Europe with masts and other large timber.

**BOTANY.]** The botany of Denmark Proper does not materially differ from that of the other northern provinces of the German empire, which has already been slightly sketched in the account of Prussia, and will be hereafter noticed more minutely when describing the other states of the Germanic body. The botany of Norway will be incorporated with that of the rest of Scandinavia, under the article Sweden.

**ZOOLOGY.]** The Danish dominions being of such great extent, and variety of climate and aspect, there is a great diversity in the animal productions. The horses of Norway and Iceland are as remarkable for diminutive size, as those of Holstein are for the contrary quality. Among the more peculiar animals may be first named the rein-deer, common in Finmark and throughout Lapland. This animal resembles a stag, but is stronger; and the deep division of his hoofs is adapted to tread on the snow, being suited by Providence to a cold climate, as the camel is to the hot desert. The antlers of the rein-deer are longer and more branched than those of the stag, and they also decorate the brows of the female. These animals are still numerous in a wild state, though the Laplanders have reclaimed great numbers, which supply the place of horses and cattle. The elk is a more southern animal, and sometimes appears in Norway, which is infested by the bear, the wolf, and the lynx. The lemming, or Norwegian mouse, proceeds from the ridge of Kolen, and sometimes spreads desolation, like the locust. These animals appear in vast numbers, proceeding from the mountains towards the sea, and devouring every product of the soil: it would seem that after consuming every thing eatable in their course, they at last devour each other. This singular creature is of a reddish colour, and about five inches in length. Norway also boasts of eagles, and its falcons are reckoned the boldest and most spirited of any in Europe. The salmon supplies a considerable part of the Laplander's food; and vast numbers are transported on reindeer from the shores of the Tana. Hares are also common in that remote region, as well as the bear, lynx, and fox; nor are the glutton and the beaver unknown. About Roras in Norway the latter animal is sometimes found white.

**MINERALOGY.]** The mineralogy of the Danish dominions is chiefly restricted to Norway, for in Jutland and the isles no important discoveries have arisen. About the year 1645 some gold ore was found near Arindal, of which ducats were struck. But in gold Norway yields greatly to the Swedish mines of Aldensfors, and only claims the superiority in silver; the mines of Kongberg, about 40 British miles to the S.W. of Christiania, having been long reputed the richest in Europe; and one mass of native silver in the royal cabinet weighs 409 marks, being worth 2000 rix-dollars, or 600l†. The rock consists of vertical banks of mica-schist, with garnets, limestone, and quartz. The veins of metal are from half an inch to more than two feet in thickness, sometimes accompanied with large-grained lime-stone, but more often with spar. These mines were discovered in 1623 by two peasants. They are worked by 30

\* Pontoppidan, i. 186. li. 276.

† Cox, v. 45.

shafts, and used to yield about 70,000*l.* annually, when 4000 men were employed; but recently 2400 have removed to the cobalt mines at Fossom, 20 miles to the north, and it is supposed that the produce barely defrays the expence. Yet they supply the mint with currency, the largest coin being of eight Danish skillings, or four-pence sterling; and it is esteemed a peculiarity of this mine, that it may be little productive during a year or two, when suddenly a rich vein is discovered which amply repays the loss of labour\*.

Norway also possesses other silver mines at Iarlsberg in the same region, about 30 miles to the N.E., discovered in 1726, but of small account.

The important copper mines of Roras, about 68 British miles S.E. of Drontheim, were discovered in 1644. They are in the southern slope of the chain of Doffra, in a rock of what the Germans call *hornschiefer*. The veins are from six inches to six ells in thickness; and the ore of a pale yellow. In general the mines of Roras are very productive, and a source of considerable revenue. Other copper mines are at Quickne and Selboe, about fifty miles to the east of Drontheim, and at other places.

The mines of cobalt at Fossom, a recent discovery, must not be passed in silence. This metal yields smalt, or powder blue, used in painting pottery and porcelain, and in colouring starch; and the mine is supposed to produce a clear annual revenue to the crown of about 15,000*l.* Near it is a rich vein of quartz containing large masses of talc†.

But the iron mines of Norway are esteemed the most profitable. They are chiefly situated not far from Arindal, in the southern province of Christiansand; and near Skeen, between Arindal and Kongsborg‡. Lead appears in the vicinity of Kongsborg; and there are alum works near Christiana. In Iceland are found many volcanic productions, particularly black obsidian. The isles of Faroe besides basaltic columns of all kinds and sizes, produce agate, jasper, and beautiful zeolites. The magnet is also found in Norway: with curious garnets, especially the green, which are little known in other regions.

**MEDICAL WATERS.]** In medical waters the Danish dominions are very deficient: and those discovered in 1768 at Oersten in the Sondmoer appear to be little frequented.

**NATURAL CURIOSITIES.]** While the southern parts of the Danish dominions present few natural curiosities, the northern provinces afford many singular features. The Moskoltrom, or Maltrom, is a remarkable whirlpool off the shore of Norland, which will involve boats, and even ships: but the bellowing struggles of the whale have not always redeemed him from the danger; the bottom is full of craggy spires, and the noise truly tremendous. On the south of the Faroe isles there is another dreadful whirlpool. The volcanoes of Iceland may also be classed among the grandest features of nature. Among these, Mount Hekla is the most remarkable, being situated in the southern part of the island, about 20 British miles from the sea, above which it rises to the height of about 5000 feet. The summit is covered with snow, except some spots where the heat predominates. The craters are numerous, but the eruptions rare; there having only been ten from the year 1104 to 1693, after which it remained quiet till 1765, when it emitted flames and lava. The boiling

\* Ponto .i. 183, &c. Coxe, ut supra.

† Coxe, v. 49.

‡ According to Busching, i. 341. ochre is found near Wardhus, in Finmark, of a beautiful sky-blue, probably like that of Elba, and the sign of a rich iron mine.

springs of Iceland present a singular phenomenon : that of Geyser to the north of Skallholdt is the most remarkable, rising from an aperture 19 feet in diameter, and springing at intervals to the height of 50 or even 90 feet \*. About 20 miles to the north of Bergen, the rocks abound with singular petrifications. The mountains are sometimes split and engulfed by subterranean waters, of which Pontoppidan relates some instances, more to be credited, as a similar event recently happened in the south of France. The farm of Borre, in the province of Christiana, was in 1703 swallowed up with all its buildings, and there now remains only a chasm full of ruins and sand †.

### DANISH ISLANDS.

The prime seat of the Danish monarchy having ever been in the isles of Zeeland, Funen, Laland, Falster and the others of that group, they have been considered in the general description of the monarchy. In the east, the farthest isle belonging to Denmark is that of Bornholm, a small but fertile spot conquered by the Swedes in 1645, and surrendered to them by the treaty of Roskild, 1658; but the inhabitants revolted the same year, and restored their isle to the Danish domination, under which it has since continued.

Off the west coast of Jutland are the isles of Nordstrand, Fora, Sylt, Rom, Fanoe and others, which with Helgeland are known to the Romans; and the writers of that nation appear often to have confounded them with some of the Orkneys, and even with the islands in the Baltic.

The Norwegian coast presents one continued series of small and unimportant islands, most of them indeed uninhabited. Among a few worthy of mention may be named Karm, Bommel, Sartar, Hitteren, and others at the entrance of the gulph of Drontheim : the Vikten or Viktor islands are followed by those of Loffoden, the most numerous and extensive, and noted for the whirlpool of Malfstrom. Among the dreary isles on the Laponic shore may be named Soroe and Mageroe, that of Wardhus, where there is a garrison in the Arctic ocean : and the isle or peninsula of Fiske-roe, part of which belongs to Russian Lapland.

The Norwegian isles are in general mountainous or craggy, like the corresponding coast, with precipitous rocks and a sea from 100 to 300 fathoms deep washing their bases. Between them are numerous narrow creeks, overshadowed by vast heights like those of the shore, and guarded as it were by innumerable smaller isles, and desert rocks, haunted by screaming sea-fowl.

For many years the Norwegians held the isles of Orkney and Shetland, which last was styled by them the Land of Hialt, from an adventurer so called, whence the corrupt names of Zetland, Yetland, and Shetland. The Faroe isles remain an appanage of the Danish crown : they are seventeen in number, and not unfertile, producing some barley, and abundant pasturage for sheep. Small junipers, stunted willows, and birches, alone bear a diminutive image of trees. They were discovered prior to Iceland, in the ninth century; and export feathers, eiderdown, caps, stockings, salted mutton, and tallow. The inhabitants do not exceed 5000 ‡. They abound with singular ranges of large basaltic columns.

\* Van Troil, 260.

† Busching, l. 360.

‡ See Landt's curious account of these isles, London, 1810, 8vo.

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The large and celebrated island of Iceland may be regarded as 260 British miles in length from the most western cape to the most eastern, and about 200 in breadth from N. to S., but the inhabitants do not exceed 50,000. The government was an aristocratic republic for about 387 years, till in 1261 it submitted to Norway. The maps of this country are far from being perfect; and the like complaint might justly be extended to the Danish dominions in general; but as far as can be judged, the chief range of mountains runs like the Carpathian, from the S. E. to the N. W., with some branches diverging N. E. This island forming so extensive a portion of the Danish dominions, several circumstances concerning it have been given in the general narration. The highest mountains clothed with perpetual snow are styled Yokuls; and of these Snæfial, hanging over the sea in the S. W. part of the island, is esteemed the highest, being computed at 6860 feet \*. The mountains are said to be chiefly sand-stone, pudding-stone, with petrosilex, steatite, and argillaceous schist. The chief rivers of Iceland are in the east; the Skalfanda, the Oxarfird, and the Brua, all flowing from the S. to the N. Some are white with lime, others smell of sulphur. The calcareous spar of Iceland is celebrated for its double refraction since the days of Newton. Calcedony, zeolite, lava, pumice, and malachite, or copper stalactites, are among the mineral productions. In the middle of the fourteenth century this isle was greatly depopulated by a pestilence called the Black Death. A volcanic island recently arose to the south of Iceland, but afterwards disappeared. From Iceland a colony passed to Greenland, a short course of about 200 miles; but the Danish colony in Greenland has been long explored in vain, the eastern coast on which it was settled being since blocked up by the ice.

## SWEDEN.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

NAMES.] SWEDEN, in the native language Suithead, and more modernly Sweireke, appears to be a very ancient appellation, and is said by the northern antiquaries, to imply a country whose woods had been burnt or destroyed. The name seems as ancient as the time of Tacitus †, who, after describing the Suiones who lived in islands of the ocean, passes to the Sitones, and afterwards to the nations at the farther end of the Baltic. The Sitones must have dwelled in the southern provinces of Sweden; and the name either have been derived from Sic-tuna, the old name of the chief town, as appears from Adam of Bremen, or from Suithead the native term, softened as usual by the Roman enunciation.

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\* Pennant, A. Z, lxiii.

† German. c. 44, 45.

EXTENT.]

**EXTENT.]** The kingdom of Sweden is of very considerable extent, being from the most southern promontory of Scone to the northern extremity of Swedish Lapland, not less than 1150 British miles in length, and in breadth, from the Norwegian Alps to the limits of Russia, about 600. The contents in square miles have been computed at 208,912; and the inhabitants being some years ago supposed 2,977,345, there will be 14 to the square mile, including Swedish Pomerania, computed at 1440 square miles, and 103,345 inhabitants.

**MODERN DIVISIONS.]** The provinces of the Swedish monarchy may be arranged in the following manner :

- |                                         |                       |
|-----------------------------------------|-----------------------|
| 1. Upland                               | } or Sweden Proper.   |
| 2. Sudermanland                         |                       |
| 3. Nerike                               |                       |
| 4. Westmanland                          |                       |
| 5. Dalarne, or Dalecarlia               |                       |
| 6. West Gothland.                       |                       |
| 7. East Gothland.                       | } or West Norland.    |
| 8. South Gothland.                      |                       |
| 9. Jemtland                             |                       |
| 10. Angermanland                        |                       |
| 11. Medelpad                            | } or Swedish Lapland. |
| 12. Halsingland                         |                       |
| 13. Gastrickland                        |                       |
| 14. Herjeadalen                         |                       |
| 15. West Bothnia.                       |                       |
| 16. Asele Lappmark                      |                       |
| 17. Umca Lappmark                       | } or East Bothnia.    |
| 18. Pitea Lappmark                      |                       |
| 19. Lulea Lappmark                      |                       |
| 20. Tornea Lappmark                     |                       |
| 21. Kemi Lappmark                       | } or Finland.         |
| 22. Uleaborg                            |                       |
| 23. Wafa                                | } or Finland.         |
| 24. Kuopio Karelen, or Carelia          |                       |
| 25. Tavastland and Nyland               | } or Finland.         |
| 26. Abo and Bjorneborg                  |                       |
| 27. Kymmengard                          |                       |
| 28. Swedish Pomerania, in Upper Saxony. |                       |

**ORIGINAL POPULATION.]** As there is no evidence that the Celts ever penetrated to Scandinavia, the first population appears to have consisted of Fins, who, perhaps, seven or eight centuries before the Christian era, were supplanted by the Goths, mythologically represented as having been conducted by Odin, the god of war. No foreign conquest having since extended hither, the population continues purely Gothic in the southern parts; while in the north there are remains of the Fins; and above them the Laplanders, a native diminutive race resembling the Samoides of the north of Asia; and the Esquimaux and Greenlanders, Arctic races of America.

**PROGRESSIVE GEOGRAPHY.]** The southern parts alone of Scandinavia being known to the ancients, its progressive geography is rather obscure. The only people there situated known to Tacitus, were the Sitones. Ptolemy mentions five or six tribes, among which are the Gutæ of Gothland, as inhabiting the portion of Scandinavia known in his time. His four Scandinavian islands are evidently those of Zeeland, Funen, Laland, and

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and Falster. After this period there is little progress in Scandinavian geography till the time of Jornandes, in the sixth century, who describes Scanzia, or Scandinavia, at some length, and mentions various nations by whom it was inhabited. The next notices are due to the voyage of Ohter, recited by our great Alfred; and the more certain and general knowledge begins to dawn with Adam of Bremen, and the Icelandic historians.

**HISTORICAL EPOCHS.]** The following seem to constitute the chief historical epochs of Sweden:

1. The early population by the Fins and Laplanders.
2. The conquest by the Goths.
3. What little knowledge the ancients possessed concerning the south of Scandinavia.
4. The fabulous and traditional history, which begins about the year of Christ 520, and includes the conquest of Sweden by Ivar Vidfatme king Denmark, about A. D. 760. Hence there is an obscure period till the reign of Biorn I., A. D. 829, commemorated, with his immediate successors, by Adam of Bremen.
5. The conquest of Denmark by Olaf II., about the year 900.
6. The partial conversion of Sweden to Christianity in the reign of Olaf III., A. D. 1000; but more than half a century elapsed before paganism can be considered as finally abandoned, in the reign of Ingi the Pious, A. D. 1066.
7. The accession of the Folkungian branch, about the middle of the thirteenth century.
8. The Swedes, discontented with their king Albert of Mecklenburg, in 1388, elect as their sovereign Margaret heiress of Denmark and Norway. Thus ended the Folkungian race: and by the celebrated treaty of Colmar, A. D. 1397, the three kingdoms of the north were supposed to be united for ever. But after the death of Margaret in 1412, the Swedes began to struggle for their liberty; and in 1449 Karl or Charles VIII. was elected king of Sweden.
9. The struggles between Denmark and Sweden, till the cruel and tyrannic reign of Christiern II., king of Denmark, Norway, and Sweden.
10. Tyrants are the fathers of freedom. Gustaf Wase, whom we style Gustavus Vasa, delivers his country from the Danish yoke, after a contest which forms one of the most interesting portions of modern history. The revolt may be considered as having commenced when Gustaf appeared at Mora in Dalecarlia, A. D. 1520, and completed three years afterwards when he entered Stockholm in triumph. Dissatisfied with the power of the clergy which had repeatedly subjugated the kingdom to Denmark, this great prince, 1527, introduced the reformed religion, and died in his seventieth year, September 1560, after a glorious reign of thirty-seven years.
11. The reign of Gustaf Adolph, or Gustavus Adolphus, A. D. 1611—1631. Austria, Spain, and the other Catholic kingdoms having conspired to extirpate the Protestant religion in Germany, this king was invited to assist the reformed, and carried his victorious arms to the Rhine and the Danube.
12. The reign of Charles XI. 1660—1697, when the arts and sciences began to flourish and the power of the kingdom was carried to its utmost height. This reign of solid beneficence was followed by the calamitous sway of that madman Charles XII.
13. After the weak reign of Charles XII., Sweden sunk into political humiliation;



humiliation ; and is now regarded as little better than a province of Russia, to which disgrace the the Swedish aristocracy as naturally tends as that of Poland.

**ANTIQUITIES.]** The ancient monuments of Sweden consist chiefly of judicial circles, and other erections of unhewn stone, followed by the monuments inscribed with Runic characters, some of which are as recent as the fifteenth century, and none of them can safely be dated more anciently than the eleventh. Not far from Upsal is the morasten, or stone on which the king used to be enthroned, as the old Scottish monarchs were at Scone. The ancient temples, called Skior, or Skur, were on wood, and have consequently perished. Some of the old castles, erected since the use of stone, are remarkable for their resemblance to what are called Pictish castles in Scotland.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Ecclesiastic Geography. — Government. — Laws. — Population. — Colonies. — Army. — Navy. — Revenue. — Political Importance and Relations.*

**RELIGION. ECCLESIASTIC GEOGRAPHY.]** **T**HE religion of Sweden is the Lutheran, and this kingdom has retained an archbishoprick with thirteen prelaties, the parishes amount to 2537. The priests are computed at 1378 ; with 134 vicars, and 192 prepositi, or inspectors\*. Some of the parishes are very extensive, as that of Eastern Bothnia, which is about 150 miles in length by 48 in breadth ; and another parish in Lapland is still larger.

**GOVERNMENT.]** The revolution of 1772 pretended to restore the government to the form established by Charles XI., and which had lapsed into a factious mixture of aristocracy, but by the act of union, 1789, the constitution became an absolute monarchy ; the monarch having arrogated not only the rights of peace and war, and the administration of justice, but the imposition of taxes, without the consent of the diet, which cannot deliberate on any subject till it be proposed by the sovereign. The diet consists of nobles, and landed gentlemen, clergy, burgesses, or deputies of towns, and those of the peasantry. Each of the four states has a speaker ; the archbishop of Upsal being always the speaker of the clergy, while the king nominates the others. As the monarch is not opulent, it is evident that so large and respectable a body might constitute a formidable barrier ; but the evils of faction have been so great and impendent, and the Russian power and influence so destructive to the very existence of the state, that the deputies seem justly to regard the dictatorial power of the monarch as necessary for their own preservation.

**POPULATION.]** When the great extent of the Swedish territory is considered, the population will appear comparatively small ; a circumstance arising in part from the mountainous nature of the country, and in part

\* Olivarius Le Nord Litteraire, No. 12.

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from the severe climate of the northern districts; Swedish Lapland being supposed not to contain more than 7000 inhabitants. Yet at present the population of the kingdom is thought to exceed 3,000,000. The nobility are so numerous as to be computed at about 2,500 families; while the peasants, the most numerous class, amount to about 2,000,000.

**COLONIES.]** Sweden only possesses one small colony, that in the island of St. Bartholomew in the West Indies, which was ceded to them by the French in 1785\*.

**ARMY.]** The Swedish army consists of national troops and of foreign infantry, the latter being computed at about 12,000. The total amount of the army may be 48,000: and the soldiers are of distinguished valour and hardihood, and elated with the former fame of the Swedish arms.

**NAVY.]** So fatal were the naval operations of 1792, that the Swedish fleet which consisted of 30 ships of the line, cannot now display above half that number. In the Baltic, which is full of low coasts and shoals, galleys of a flat construction are found more serviceable than ships of war, and of course great attention is paid to their equipment by Sweden as well as Russia.

**REVENUE.]** The revenue of Sweden is computed at about a million and a half sterling, which is equalled by the expences of the government. The national debt cannot be much less than 10,000,000 sterling.

This debt being chiefly incurred at Hamburgh, the country is overwhelmed with the paper money of that city; and the scarcity of gold and silver, and even of copper currency, is incredible. The ducat is the only gold coin, worth about nine shillings sterling; while the silver crown may be valued at four shillings and sixpence. The schelling or shilling is worth little more than one penny sterling; and the copper consists of half and quarter shillings, the ancient heavy pieces being now rarely visible.

**POLITICAL IMPORTANCE AND RELATIONS.]** The political importance and relations of this kingdom are much diminished since the glorious reign of Gustaf Adolph and the beneficent sway of Charles XI. Prior to the late revolution in France, Sweden had remained a faithful ally of that kingdom, which excited her against any enemies in Germany, as Scotland was formerly involved in the wars between France and England. Of late this alliance seems to be sacrificed to a more useful connection with Denmark and Prussia, which can alone guard the north of Europe from the progress of the Russian preponderance. The disorder of the finances unites with many causes of discontent, both among the aristocracy and among the peasantry, to render the power of Sweden little apparent in the political balance of Europe, especially as now merged in the ascendancy of France.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities. Cities.—Towns.—Edifices.—Roads.—Inland Navigation.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the superior classes in Sweden are so much tinged with those of the French, their allies, that no strik-

\* *Olivarius Le Nord Litteraire*, No, 12.

ing peculiarity can be observed, and even the peasantry have so much vivacity and address, that they have been styled the French of the north. The complexion, which, in the northern latitudes is generally fair, is here much diversified, being in some provinces extremely brown. The men are commonly robust and well-formed, and the women slender and elegant. The natives of the western province of Dalecarlia retain many ancient customs, and have been distinguished for their courage and probity, since the time that Gustaf Wase issued from the mines of that country to break the yoke of Denmark. The Finlanders, on the east of the Bothnic gulph, are now little distinguishable from the Swedes; and any remarkable peculiarities of manners and customs must be sought in Swedish Lapland. Danish Lapland however being more remote, less known, and more recently described, an account of this singular people is given under the article of Denmark.

LANGUAGE.] The language of Sweden is a dialect of the Gothic, being a sister of the Danish, Norwegian, and Icelandic. In the two grand divisions of the Gothic, consisting of the German and Scandinavian dialects, the latter is distinguished by greater brevity and force of expression. In the south of Sweden, which contains the chief mass of population, some German and French words have been adopted; while the Dalecarlian on the N.W. is esteemed a peculiar dialect, perhaps only because it contains more of the ancient terms and idiom.

LITERATURE.] In the antiquity of literature, Sweden cannot pretend to vie with Denmark, Norway, or Iceland; the most early native chronicle, or perhaps literary composition, being not more ancient than the fourteenth century. In return, while the Danes seem occupied with internal policy, and public regulation, the Swedes have, in modern times, borne the palm of genius in many departments of literature and philosophy.

But Swedish literature can hardly be said to have dawned till the middle of the seventeenth century, when the Queen Christina, finding the country immersed in ignorance, invited Grotius, Descartes, and other celebrated men, who, though they did not reside long in the kingdom, yet sowed the seed of letters, which gradually began to prosper in the wise and beneficent reign of Charles XI. In the succeeding or last century the name of Linnæus alone might distinguish the national literature; and it is joined in natural history with those of Tilas, Wallerius, Quist, Cronstedt, Bergman, and others. In history, Dalin and Lagerbring have distinguished themselves by a precision and force, which the Danes seem to sacrifice to antiquarian discussions. Sweden also boasts of native poets and orators; and the progress of the sciences is supported by the institution of numerous academies.

EDUCATION.] The manner of education has, as usual, been neglected by travellers and geographers, though perhaps one of the most important branches in the whole circle of human affairs. Compared with this primary foundation, an enumeration of universities is of small consequence. That of Upsal is the most ancient and renowned, containing about 500 students; while that of Lunden presents about 300. A third is at Abo in Finland, frequented even by students from Russia; and the whole number is computed as equalling that of Upsal. There are besides twelve literary academies, most of which publish memoirs of their transactions. The library at Upsal is richly furnished with books remitted by Gustaf Adolph, when his victorious arms penetrated deeply into Germany; Sweden having thus acquired by war the first materials of her literary fame.

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**CITIES AND TOWNS.]** Stockholm, the capital of Sweden, stands in a singular situation between a creek or inlet of the Baltic sea, and the lake Mælär. It occupies seven small rocky islands, and the scenery is truly singular and romantic. "A variety of contrasted and enchanting views is formed by numberless rocks of granite, rising boldly from the surface of the water, partly bare and craggy, partly dotted with houses or feathered with wood\*." Somewhat resembling Venice, but with greater diversity of prospect, it requires no fortifications. > Most of the houses are of stone or brick, covered with white stucco; except in the suburbs, where several are of wood painted red, as usual in the country of Sweden. > This city was founded by the earl Birger, regent of the kingdom, about the middle of the thirteenth century; and in the seventeenth century the royal residence was transferred hither from Upsal. The entrance to the harbour is through a narrow strait, of somewhat difficult access, especially as there are no tides: and for four months in the year is frozen. It is however deep, and capable of receiving a great number of vessels. The royal palace stands in a central and high situation: and there are a castle, an arsenal, and several academies. The manufactures are few, of glass, china, woollen, silk, linen, &c. by the latest accounts the population of Stockholm may be estimated at 80,000.

Next in dignity is Upsal, the only archbishoprick, and formerly esteemed the chief city of the kingdom; but at present the inhabitants, exclusive of the students, do not exceed 3000 †.

Gotheborg, or Gothenburg, in the province of West Gothland, is esteemed the second city in Sweden, having a population of 20,000, though it was only founded by Charles IX. or rather by Gustaf Adolph. Besides considerable commerce, the herring fishery contributes to enrich Gothenburgh ‡. The streets are uniform; and the circumference is computed at near three miles.

Carlskrona was founded by Charles XI. in 1680. This city, and Stralsund, in Swedish Pomerania, are supposed each to contain about 11,000 inhabitants. Abo, in Finland, is computed at 8,750; in which number it is nearly rivalled by Nordkiöping. Fahlun is the next in population; and is followed by Wismar, another town possessed by Sweden, on the northern shore of Germany. None of the other towns contain more than 4000 inhabitants.

**EDIFICES.]** Even including the royal palaces, Sweden cannot boast of many splendid edifices. The roads are in general far superior to those of Denmark and Norway, which seem unaccountably neglected, good roads being the very stamina of national improvement.

**INLAND NAVIGATION.]** Of late a laudable attention has been paid to inland navigation; and the chief effort has been to form a canal between Stockholm and Gothenburg. In this canal, styled that of Trolhattan, conducted along the river Gotha, stupendous excavations have been made through the granitic rocks, in order to avoid cataraets; one of which, of more than 60 feet, is called the Infernal Fall. Yet the plans have repeatedly failed, from the ignorance of the engineers; and the first expence ought to have been to procure a superintendant of real skill from England §. The intention was to conduct an inland route from the Mælar Lake to that of Hielmar, and thence to that of Wener; and by the

\* Coxæ, iv. 33.

† Ib. iv. 173.

‡ Ib. iv. 320.

§ This canal is now completed. In 1801 there passed through it 1380 ships of different sizes laden with iron, steel, timber, herrings, grain, flour, &c.

river Gotha, an outlet of the latter, to the Skager Rack and German Sea. This grand design is already in some measure completed; and in the year 1800 the rivers and old canals of Finland were ordered to be cleared: but in that region the ice affords the easiest mode of communication.

**MANUFACTURES AND COMMERCE.]** The Swedish manufactures are far from being numerous, consisting chiefly of those of iron and steel; with cloths, hats, watches, and sail cloth. The manufactures of copper and brass, and the construction of ships, also occupy many hands. In 1785, it was computed that 14,000 were employed in those of wool, silk, and cotton. Of native products exported, iron is the most considerable; and it is said that the miners in the kingdom are about 25,600.

The commerce of Sweden rests chiefly on the export of their native products, iron, timber, pitch, tar, hemp, and copper. Herrings also form a considerable article. The chief import is corn of various kinds, particularly rye, Sweden rarely affording a sufficiency for her own consumption; with hemp, tobacco, sugar, coffee, drugs, silk, wines, &c. Mr. Coxe has published a table of the Swedish commerce, whence it appears that the exports then amounted to 1,368,830*l.* 13*s.* 5*d.* and the imports to 1,008,392*l.* 12*s.* 4½*d.*, so that the balance in favour of Sweden was about 360,000*l.*

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE different parts of Sweden present considerable varieties of temperature, but even in the middle regions winter maintains a long and dreary sway. The gulph of Bothnia becomes one field of ice: and travellers pass on it from Finland by the isles of Aland. In the most southern provinces, where the grand mass of the population is centered, the climate may be compared to that of Scotland, which lies under the same parallel; but the western gales from the Atlantic, which deluge the Scottish Highlands with perpetual rain, and form the chief obstacle to improvement, are little felt. In the north the summer is hot, by the reflection of the numerous mountains, and the extreme length of the days; for at Tornea, in Swedish Lapland, the sun is for some weeks visible at midnight; and the winter in return presents many weeks of complete darkness. Yet these long nights are relieved, by the light of the moon, by the reflection of the snow, and by the *Aurora Borealis*, or northern lights, which dart their ruddy rays through the sky, with an almost constant effulgence.

**FACE OF THE COUNTRY. SOIL AND AGRICULTURE.]** No country can be diversified in a more picturesque manner, with extensive lakes, large transparent rivers, winding streams, wild cataracts, gloomy forests, verdant vales, stupendous rocks, and cultivated fields. The soil is not the most propitious; but agriculture is conducted with skill and industry, so as much to exceed that of Germany and Denmark. Even



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Finland

Finland presents many rich pastures, and not a few fields of rye, oats, and barley.

**RIVERS.]** Sweden is intersected by numerous rivers, the largest of which are in the native language called *Elbs*, or *Elfs*. The most considerable flow from the lakes, without any great length of course: such as the *Gotha*, the only outlet of the vast lake of *Wener*, but impeded by many rocks and cataracts. Many other rivers in the south rather assume the form of creeks, and outlets of the lakes, as the *Motala*, which is the outlet of the lake *Weter* passing by *Norkioping*; and scarcely can a stream be named of considerable course, till we reach the river *Dahl*, the most important in Sweden; consisting of two conjunct streams, the eastern and western *Dahl*, which rise in the Norwegian Alps, give name to the province of *Dalarn*, or *Dalecarlia*, and, after a course of about 160 British miles, enter the *Bothnic gulph*, about 10 miles to the east of *Gesle*, presenting, not far from its mouth, a celebrated cataract, deemed little inferior to that of the *Rhine* at *Schaffhausen*, the breadth of the river being near a quarter of a mile, and the perpendicular height of the fall between 30 and forty feet\*. The surrounding scenery also adds the effect, which is truly sublime.

Farther to the north, and in Swedish *Lapland*, are many considerable rivers, which also arise from the Norwegian Alps, and flow into the gulph of *Bothnia*, after circuits of about 200 miles. The chief of the Laplandic streams is the *Tornea*, which springs from a lake of the same name; and, after receiving the *Kengis*, and other considerable rivers, joins the northern extremity of the *Bothnic gulph*, having run about 300 British miles.

Finland is sprinkled with numerous lakes, which give rise to considerable streams, but of a short course; as the *Ulea*; the *Cano* which passes by *Biornborg*; and the *Kymmen* flowing into the centre of the gulph of Finland.

**LAKES.]** Few countries can rival Sweden in the extent and number of lakes, which appear in almost every province. Of these the most important is the *Wener*, which is about 80 British miles in length by about 50 in breadth, in great part surrounded with forests, and rocks of red granite. It receives 24 rivers, abounds with fish, and contains many romantic isles.

Next is the *Weter*, a lake of equal length, but inferior in breadth, which seldom exceeds 12 miles. This lake being surrounded with mountains is particularly subject to storms in the stillest weather, whence arise many popular tales and superstitions: it contains two remarkable islands; and on the shores are found agates, carnelians, and touch-stones, or pieces of fine basalt. The *Weter* is clear, though deep; and while it receives about 40 small rivers, has no outlet except the *Motala*.

The lake *Meler*, at the conflux of which with the Baltic is founded the city of *Stockholm*, is about sixty British miles in length by eighteen in breadth, and is sprinkled with picturesque isles. To the S.W. is the lake of *Hielmar*, more remarkable for its proposed utility in the inland navigation than for its extent.

Many other lakes are found in the north of Sweden, among which the most considerable is that of *Stor*, in the province of *Jemtland*. The chief lake of *Lapland* is that of *Enara*, in the furthest north, about seventy British miles in length, by thirty at its greatest breadth; after this may be named those of *Hernsaba Staer*, or the great lake, *Tornea*,

\* Wessall's Northern Tour, p. 138. Case, v. 9.



and others. The lake and mountain of Niemi, and the river Tengilo, which falls into the Tornea, have been celebrated by Maupertuis for their picturesque beauty.

The most considerable lake in Finland is that of Pejend, or Pajana, about 80 miles in length by 15 in breadth, and which gives source to the river Kymmen. The lake of Saima to the E. is yet more considerable; but it is chiefly within the Russian dominions: this lake may perhaps, with its various creeks and communications, be estimated at 160 British miles in length, by 25 at its greatest breadth; and flows into the Ladoga, by the great and noisy current of Woxen, which forms a vast cataract about a mile from its mouth\*.

**MOUNTAINS.]** Sweden may be in general regarded as a mountainous country; in which respect it is strongly contrasted with Denmark Proper, or Jutland, and the isles. The chief mountains are in that elevated chain which divides Sweden and Swedish Lapland from Norway; from which successive branches run in a S.E. direction. It would appear that the granitic ridge of the chain is in Norway; while the flanks, consisting as usual of limestone, pudding-stone, and free stone, verge into Sweden. The centre of the chain seems, as in the Alps and Pyrenees, to present the chief elevations, whence the mountains decline in height towards Lapland. In the centre and south of Sweden the red granite becomes very common: but in Westrogothia the mountains are often of trap.

Farther illustrations of the grand chain of mountains which divide Sweden from Norway will be found in the description of the Danish dominions.

**FORESTS.]** The forests of this kingdom are numerous, and without their aid the mines could not be wrought. Dalecarlia, in particular, abounds with them, and the numerous lakes are generally skirted with wood to the margin of the water.

**BOTANY.]** Although the grand Scandinavian peninsula be divided by its political interests between Denmark, Sweden, and Russia, yet nature refuses to acknowledge any such distinction: it shall therefore be considered with respect to its botany as one great whole; nor can a sketch of its indigenous plants be introduced any where with more propriety than in the description of that territorial part of it which, in extent, is superior to all the rest, and which reckons amongst its citizens the illustrious Linnæus, and several of his most eminent disciples.

The lowlands and lakes of Scandinavia are principally situated in the south of Sweden and Finland, and the great ranges of Alpine mountains are found near the Arctic circle, or at least are confined to the northern provinces: hence it is that Lapland, both from its elevation and its northern site contains several plants which are not to be met with in the rest of the peninsula.

Several species are common both to England and Scandinavia; and though the flora of Britain be the most copious of the two, yet the superiority is not perhaps so great as might be expected from the difference of climate. If those species that are natives of our chalk hills and southern coasts are for the most part wanting to Scandinavia, yet this last contains several German and Arctic plants which are not to be found in our own island.

Of timber trees there are but few species; the most common, and those which constitute the wealth of Scandinavia, are the Norway pine,

and the fir: of these there are immense forests spread over the rocky mountains, and deepening with their sullen hue the whole horizon; thousands of giant growth are every winter overthrown by the storms, and allowed to perish where they fall from the impossibility of transporting them to the sea; others, in more accessible situations, are converted to various human uses; the wood from its lightness and straightness is excellent for masts and yards, and various domestic purposes; the juice, as tar, turpentine, and pitch, is almost of equal value with the wood; and the inner bark, mixed with rye meal, furnishes a coarse bread in time of scarcity. The mountain ash, the alder, the birch, and dwarf birch, and several kinds of willow, are found in the whole peninsula: the lime, the elm, the ash, and the oak, though growing with freedom in the southern parts, are incapable of withstanding the rigours of a Lapland winter. Among the larger shrubs the German tamarisk, and the barberry, are met with chiefly in the south; the burnet rose, the gale, the raspberry, and juniper, are hardy enough to flourish even within the Arctic circle. The lower woods and thickets afford the *Linnaea borealis* in great abundance, with the mezereon, the hepatica, and the cornus Suecia. The fir woods yield two species of pyrola, and the shady sides of the mountains and alpine lakes are adorned by the *Serratula alpina*, *tussilago frigida*, the wolfsbane aconite, globe flower, and the splendid *pedicularis sceptrum*.

The dry rough tracts on the sides of the mountains are covered with the heath, the bearberry, and the Iceland and rein deer lichen; the one an article of food to the inhabitants, the other the chief support of the animal whose name it bears. The bleak summits, where even the heath cannot root itself, are clothed with the beautiful *azalea procumbens*, and other hardy plants.

The plants of Lapland may be divided into those which are common to this and to more southern countries, and those which are scarcely ever met with beyond the limits of the Arctic circle. Among the former may be particularized *azalea procumbens*, *saxifraga cornua*, and *rhodiola rosea*, all growing in immense abundance on the highest mountains; the red currant, whortleberry, cloudberry, and stone bramble, the berries of all which are gathered in great quantities and preserved under the snow till winter, at which time, mixed with rein deer's milk, they form an agreeable variety in the food of the inhabitants: the moist woods are perfumed during the short summer by the lily of the valley.

The vegetables peculiar to Lapland, and which grow either on the highest mountains or on the shore of the northern ocean, are *diapensia lapponica*, *andromeda cærulea*, and *tetragona*, *rubus arcticus*, *ranunculus hyperboreus*, *pedicularis lapponica*, *guaphalium alpinum*, *salix lapponum*, and *azalea lapponica*.

**ZOOLOGY.]** The Swedish horses are commonly small but spirited; and are preserved, by lying without litter, from some of the numerous diseases to which this noble animal is subject. The cattle and sheep do not seem to present any thing remarkable. Among the wild animals may be named the bear, the lynx, the wolf, the beaver, the otter, the glutton, the flying squirrel, &c. The rein-deer of Lapland is briefly described in the account of the Danish monarchy. Sweden also presents one or two singular kinds of falcons, and an infinite variety of game.

**MINERALOGY.]** Of modern mineralogy Sweden may perhaps be pronounced the parent country; and her authors, Wallerius, Cronstedt,

and Bergman, have laid the first solid foundations of the science. It would therefore be a kind of literary ingratitude not to bestow due attention on Swedish mineralogy. First in dignity, though not in profit, are the gold mines of Adelfors in the province of Smoland. The gold is sometimes native, and sometimes combined with sulphur. Some ores of copper are also found in the same vein, which likewise presents galena and iron. But these mines seem to be nearly exhausted. In the production of silver Sweden yields greatly to Norway; yet the mine of Sala, or Salberg, about 30 British miles west of Upsal, maintains some reputation. The silver is in limestone; which, however, when it is large-grained and free from mixture, contains no mineral, and is styled ignoble rock: it is on the contrary metalliferous when fine-grained, and mingled with mica\*. There are about 100 veins, greater or smaller. The silver is rarely found native, but is procured from the galena or lead ore. Silver has also been found in Swedish Lapland.

The chief copper mines of Sweden are in the province of Dalecarlia. On the east of the town of Fahlun is a great copper mine supposed to have been worked for near 1000 years†. The metal is not found in veins, but in large masses; and the mouth of the mine presents an immense chasm, nearly three quarters of an English mile in circumference, the perpendicular depth being about 1020 feet. About 1200 miners are employed. Copper is also wrought in Jemtland; and at Ryddarhytte is found iron. Nor is Sweden deficient in lead: but iron forms the principal product, and the mine of Danamora is particularly celebrated for the superiority of the metal, which in England is called Oregrund iron, because it is exported from Oregrund an adjacent port, where the Bothnic gulph joins the Baltic. The mines of Danamora have no galleries, but are worked in the open air by means of deep excavations‡. The ore is in a limestone rock, and occupies about 300 persons in twelve pits. This valuable mine was discovered in 1488. Bergman describes the iron mine of Taberg in Smoland, as consisting of beds of ore, of a blackish brown, separated by beds of mould without any stone§. This enormous mineral pile is rivalled by an entire mountain of iron ore near Tornea, in Lapland; and at Lulea the mountain of Gellivar forms a mass of rich iron ore, of a blackish blue, extending like an irregular vein for more than a mile, and in thickness from 300 to 400 fathom||. Cobalt is found at Basna, and zinc at Danamora; while the mines of Sala present native antimony; and molybdena appears at Norberg. Coal has been recently discovered in the province of Scone.

Sweden abounds with beautiful granite; but in marble yields to Norway. Porphyry also appears in the mountains of Swucku, and many other parts.

The most renowned medical waters in Sweden are those of Medevi, in eastern Gothland.

Sweden and Swedish Lapland abound with natural curiosities of various descriptions. Some of the lakes and cataracts have been already mentioned; and it would be in vain to attempt to describe the many singular and sublime scenes, which occur in so variegated and extensive a country.

\* Bergman, *Phy. Geog. ut supra*, p. 49.

† *Coxe*, v. 103.

‡ In another passage, p. 23, Bergman observes that the two mountains of Kerunaw and Loufowara, in Pitea Lapland, only divided by a little valley, are wholly composed of iron ore.

§ *Coxe*, v. 94.

|| *Ut supra*, p. 38.

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## REMOTE AND DISTINCT PROVINCES.

POMERANIA.] In some instances a province or provinces belonging to a country are so distant, that they cannot be well included in the general account, but must like the islands be considered apart. In this case is Swedish Pomerania, which contains about 103,000 inhabitants. Concerning this ancient duchy, of which Sweden only possesses a portion, Busching has given ample details. The kings of Sweden and Prussia have each a vote in the diets of the empire, the first as duke of Further Pomerania, and the other of Further Pomerania. The ancient line of dukes having become extinct, Sweden received, by the celebrated treaty of Westphalia, great possessions in Pomerania; but was obliged by the peace of Stockholm, 1720, to resign a considerable portion to the king of Prussia; nor was the imperial investiture obtained by Sweden for the remainder till 1754. The governor of Swedish Pomerania resides at Stralsund, where there is a court of justice for military affairs. There is also a royal court of justice at Griefswald; but the supreme tribunal is at Wismar. The revenues of Swedish Pomerania scarcely exceed 140,000 rix dollars, and are encumbered with a public debt. The isle of Rugen belongs to Swedish Pomerania, and has the title of principality. This isle is very productive in various kinds of grain, which are transported to Stralsund; the nobility are numerous, and as jealous of their privileges as if they moved in a wider sphere. Rugen is divided into seven parishes, the chief town being Bergen. Stralsund, the chief town of Swedish Pomerania, is surrounded with water on all sides, and maintains a considerable trade. Griefswald is the seat of an university founded in 1456.

## SWEDISH ISLANDS.

Sweden possesses many islands, scattered in the Baltic sea and gulph of Bothnia. Rugen, the most southerly, affords as it were a passage to the Swedish possessions in Pomerania. This isle formerly had its own princes, who afterwards paid homage to the Danes. It was annexed to Sweden by the treaty of Westphalia, and is not a little productive in grain and cattle. Farther to the north-east is the long island of Oland, or Æland, in length about seventy miles, in breadth about six. In the north are many fine forests, while the southern part is more level and fertile. The shores are small, but strong, and the forests abound with deer, nor is the wild boar unknown. Freestone, alum, and touch-stone are products of Æland; and the inhabitants are computed at near 8000. Next occurs the island of Gothland, known to the literary world by the travels of Linnaeus, about seventy miles in length, and twenty-four in breadth; a fertile district, remarkable for an excellent breed of sheep. It was subject to the Danes for near two centuries, till 1645, when it was restored to Sweden. The isles of Aland mark the entrance of the Bothnic gulph, deriving their name from the largest, which is about forty miles in length, and fifteen in breadth, containing about 9000 inhabitants, who speak the Swedish language though included in the government of Finland. These isles form as it were a barrier of rocks of red granite, stretching to the opposite shores.

## PORTUGAL.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**NAMES.]** THE name of Portugal is of recent origin. In the Roman period there was a town called *Calle*, now Oporto, (o Porto, or the Port,) near the mouth of the river Douro; and, this haven being eminently distinguished, the barbarism of the middle ages conferred on the circumjacent region the name *Porto Calle*; which, as the country was gradually recovered from the Moors, was yet more improperly extended to the whole kingdom\*. The ancient name of this country was *Lusitania*; but the boundaries do not exactly correspond.

**EXTENT.]** Portugal extends about 360 British miles in length by 120 in breadth; and is supposed to contain about 27,280 square miles, which, with a population of 1,838,879, will yield 67 inhabitants to the mile square†. The extent and population thus approach nearly to those of Scotland; but by some accounts the population of Portugal may exceed the calculation here followed by nearly half a million.

**ORIGINAL POPULATION.]** The original population of Portugal may be traced in that of Spain, and has undergone the same revolutions.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of Portugal is also included in that of Spain till the eleventh century, when it began to form a separate state. The kings of Castille had recovered a small part of this country from the Moors about the year 1050: and the conquest was gradually extended from the north till about the middle of the thirteenth century, when the acquisition of Algarve completed the present boundaries of Portugal.

**HISTORICAL EPOCHS.]** The historical epochs of so recent a state cannot be numerous: nor is it necessary to recur to those ancient events, which more properly belong to the general history of Spain.

1. The kings of Asturias subdued some of the Moorish chiefs of the north of Portugal. In 1054 Ferdinand king of Castille extends his conquest to Coimbra; and on sharing his dominions among his sons, Don Garcia, along with Galicia, had a part of Portugal, whence he is styled on his tomb, A.D. 1090, *Rex Portugallie et Gallicie*‡.

2. Alphonso VI. brother of Garcia, and king of Castille, having favourably admitted several French princes to his court, among them was Henry, whom he nominated count of Portugal, adding his natural daughter Theresa in marriage. The count signalized himself by many victories over the Moors, and died in 1112, leaving a son Alphonso I. of Portugal, who in the year 1139 gains an illustrious victory over five Moorish princes, and is acclaimed king by his troops in the field of battle.

3. Alphonso III., about the year 1254, completes the conquest of Algarve.—Portugal continued to be fortunate in a succession of great

\* D'Anville, *Etat formé en Europe*, &c. p. 192.

† Boettcher's *Tables*, p. 46.

‡ D'Anville, 194.

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princes; but the wars against the Moors were unhappily followed by those against the kings of Castille.

4. Portugal was to attract the admiration of Europe by her commercial discoveries. In 1415 John the Great, king of Portugal, carrying his arms into Africa, and taking the city of Ceuta, an impulse was given to the national spirit; and in 1420 we find the Portuguese in possession of Madeira. The Portuguese discoveries in Africa proceeded under John's successors, Edward, and Alphonso V., and the auspices of Prince Henry, till, in the reign of John II. they extended to the Cape of Good Hope: and in that of Emmanuel, Vasco de Gama opened the East Indies.

5. John III. admits the inquisition, A. D. 1526; since which event the Portuguese monarchy has rapidly declined.

6. Sebastian king of Portugal leads a powerful army on an idle expedition into Africa, and is slain in battle. He is succeeded by his uncle Cardinal Henry; who dying two years afterwards, Portugal was seized by Philip II. king of Spain, 1580.

7. The revolution of 1640, which placed the house of Braganza on the throne of Portugal. Little of consequence has since arisen, except the earthquake at Lisbon in 1755, and the recent intermarriages with Spain, which promise, at no remote period, to unite the kingdoms.

8. The retreat of the royal family to Brazil, and the subsequent struggles with France.

ANTIQUITIES.] The antiquities of Portugal consist chiefly of Roman monuments, with a few Moorish remains. In the farthest north is an extensive series of arches, formerly a Roman aqueduct\*. Among the antiquities of the middle ages may be named the noble monastery of Batalha, in Portuguese Estremadura, about 60 miles to the north of Lisbon, founded by John I. at the close of the fourteenth century, in consequence of the great victory over the king of Castille, one of the most noble monuments of what is called the Gothic style of architecture†.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Divisions and Population.—Colonies.—Army.—Navy.—Revenue.—Political Importance and Relations.*

RELIGION.] THE religion of Portugal is the Roman Catholic; and a strict observance of its duties forms one of the national characteristics. There are two archbishoprics, and ten episcopal sees: and there is besides a patriarch. The number of parishes approaches four thousand‡.

GOVERNMENT, &c.] The constitution of Portugal is a monarchy, absolute and hereditary; yet in case of the king's demise without male issue, he is succeeded by his next brother; whose sons have however no right to the throne till confirmed by the states§. The chief articles of the

\* Murphy's Travels.

† Murphy's State of Portugal, p. 10.

‡ See the minute description by Murphy.

§ lb. 109. from the Portuguese writers.



constitution are contained in the statutes of Lamego, issued by Alphonso I. in 1145. The laws have few particularities: they are lenient in cases of theft, which must be repeated four times before death be the punishment.

**DIVISIONS AND POPULATION.]** Portugal is divided into six provinces. 1. Entre Douro e Minho. 2. Tras-os Montes. 3. Beira. 4. Estremadura. 5. Alentejo. 6. Algarve. The two first being on the north of the kingdom, the next two in the middle, the two last in the south. The first province derives its name from its situation, between the rivers Douro and Minho, and is very populous and fertile, the second is mountainous as the name imports; but there are vales which contain vineyards, and other cultivated lands. Beira is a large and fertile province; and is rivalled in soil by Estremadura, which, like the Spanish province of the same name, is said to derive its etymon from having been an extreme frontier towards the Moors in the south. Alentejo, having been most exposed to the attacks of the Spaniards, is defective in population. Algarve is a very small division, which has however the honour of forming an addition to the royal titles. The population of the whole is, according to Boetticher, 1,838,879; but by Murphy's statement, 2,588,470.

**COLONIES.]** The chief colony from Portugal is that established in Brazil; and they still retain Madeira and many settlements on the coast of Africa, with Goa and Macao in the East Indies, the relics of great power and territory.

**ARMY, &c.]** The army is only computed at about 24,000; and the militia might perhaps amount to as great a number. The naval power, once considerable, is reduced to thirteen sail of the line, and fifteen frigates\*.

**REVENUES.]** The revenue is calculated at 2,000,000*l.* sterling, and the gold of Brazil mostly passes to England in return for articles of industry.

**POLITICAL IMPORTANCE AND RELATIONS.]** Portugal retains small influence in the political scale of Europe. Her commerce is almost wholly dependent on England: but by land she is exposed to no danger, except from Spain, or by the consent of Spain. The union of the two countries would doubtless be advantageous to both; but might prove detrimental to English commerce, and the weight of England in the Portuguese councils would infallibly subside.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Education. — Universities. — Cities and Towns. — Edifices. — Roads. — Inland Navigation. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the Portuguese are discriminated into those of the northern and southern provinces, the former being more industrious and sincere, the latter more polite and indolent. In general the Portuguese are an elegant race, with regular features embrowned by the sun, and dark

\* Murphy, 119,

expressive eyes. The prejudices of nobility are as common and pernicious in Portugal as in Spain; nor is that general intercourse found which imparts knowledge and vigour to society. Ladies of rank still imitate the industry of their ancestors in spinning flax from the distaff; and the oriental manner of sitting on cushions on the floor is often practised. The dress resembles the Spanish. The peasantry remain miserable vassals of the Fidalgos, or gentlemen.

LANGUAGE.] The Portuguese language is more remote from that of Castille than might be expected from the circumstances. As the royal race was of French extract, it is supposed that many of the words are derived from the Limosin and other dialects of the S. of France. It is a grave and solemn speech; but would have been little known among foreigners, had it not been diffused by the fame of the Lusiad.

LITERATURE.] The literature of Portugal may be said to commence with Diniz, the sixth sovereign, who cultivated poetry and the belles lettres, and founded the university of Coimbra. In his reign lived Vasco Lobeira, who is said to have been the original author of that famous romance, *Amadis de Gaula*. In more recent times, Sa da Miranda has acquired reputation in pastoral poetry. The chief historians are Joao de Barros, Fr. Luiz de Sousa, the venerable Bartholomeo do Quartaal, and the count de Ericeira\*. Among the poets the most celebrated is Camoens. In mathematics Pedro Nunez distinguished himself at the beginning of the sixteenth century. Of late years natural history begins to be a little studied: but Portugal is the last of nations in that department.

EDUCATION, &c.] Education seems greatly neglected in Portugal, though the university of Coimbra be of ancient date. That of Evora was founded in 1553; and a college at Mafra in 1772. The royal academy is of recent erection, and the design aspires to considerable public utility.

CITIES AND TOWNS.] Lisbon, the capital city of Portugal, was called by the ancients Ulyssippo, and the foundation fabulously ascribed to Ulysses. The situation is grand, on the north side of the mouth of the Tajo, and is sheltered on the N.W. by a ridge of hills. The haven is capacious and excellent. The population is computed at about 200,000. The earthquake of 1755, a dreadful and memorable epoch among the inhabitants, has contributed to the improvement of the city, the new streets being broad and well paved, resembling those in the west end of London. For constant residence the ladies prefer the attic floors; and ventilation and coolness are chiefly consulted, grates being almost unknown; while in winter a warm cloak supplies the place of a fire†. There is no court end of the town; and the finest streets are inhabited by tradesmen. There are public walks, two theatres, and a circus for the bull-fights. The patriarchal church is singularly magnificent; and the revenue is computed at 114,000*l*. The English have an open burial ground. The royal monastery of Belem, founded by king Emanuel in 1499, stands about five miles S.W. of Lisbon; and to the north is a noble modern aqueduct, completed in 1732.

The next considerable town, especially in the eye of strangers, is that of Oporto, or the Port, seated on the N. side of the river Douro, about five miles from the sea, upon the declivity of a hill, so that the houses rise like an amphitheatre. The streets are however narrow, and the houses ill constructed. Population about 30,000. The churches

\* Murphy, 157.

† Murphy's Travels in Portugal, 148.

are of little note; the British factory is a large and neat building. The chief exports are wine, oranges, lemons, &c., and linen cloth to the American colonies in Brazil.

Braga is another considerable town in the same province: and in the second northern division are the towns of Miranda and Braganza, the last of which conferred the ducal title on the present reigning family.

In the province of Beira is the venerable city of Coimbra, with its ancient university. Alentejo contains the city of Ivora, rather of ancient fame than of modern consequence. Tavora, the principal town of Algarve, does not exceed 5000 inhabitants\*.

**EDIFICES.]** The chief edifices of Lisbon are the cathedral, and monasteries formerly mentioned. The nobility, as in Spain, crowd to the capital, whence the country is little decorated with villas. In the mountains of Cintra, the farthest western extremity of Europe, about 20 miles W. of Lisbon, is placed a remarkable monastery, 3000 feet, as is said, above the sea, towards which there are remains of ancient buildings; and a curious bath replenished by a never-failing spring. On the E. of the mountain is a summer palace, of moreque architecture. The environs are rich and delightful, supplying most of the fruits and greens used at Lisbon. Here is also a small vineyard, that of Carcavella, yielding a peculiar grape, which gives name to our Calcavella, a wine generally fabricated in London†.

**INLAND NAVIGATION.]** Portugal seems to have paid no attention whatever to the construction of canals; nor perhaps are they found necessary, in a country abounding with rivers, and bordered with an ample extent of sea coast.

**MANUFACTURES AND COMMERCE.]** The Portuguese manufactures are few and unimportant: hats and paper have been lately fabricated at Lisbon; but the chief manufactories are those of woollen cloth at Covilhã, Portalegre, and Azeitão.

A considerable commercial intercourse subsists with England; but the balance in favour of the latter appears to be about 400,000*l.* sterling; and Ireland gains by her exports about 63,000*l.* annually‡. The Fal-mouth packets bring frequent remittances of bullion, coin, diamonds, and other precious stones; and for a considerable time the Portuguese gold money was current in England. Besides woollens and hardware, England transmits to Portugal large cargoes of salted and dried fish, the last article to the annual amount of about 200,000*l.* The exports of Portugal are chiefly wine, oil, oranges, lemons, figs, sugar, cotton, cork, drugs, and tobacco. Portugal also maintains a considerable trade with her flourishing colony in Brazil, the inhabitants of which are computed at 900,000. The articles exported to America are chiefly woollens, linens, stuffs, gold and silver lace, fish dried in Portugal, hams, sausages, &c. with glass manufactured at Marinha. Brazil returns gold, silver, pearls, precious stones of various descriptions, rice, wheat, maize, sugar, molasses, ornamental timber, and many other articles rather curious than important. The drugs, spices, and articles used in dying, must not however be omitted. The trade with the East Indies is inconsiderable; and that with the other European nations scarcely deserving notice: it is chiefly with Holland, France, Denmark, and Germany. Some trade is also carried on with the American states.

\* Estimated by some however at 20,000.

† Murphy's Travels in Portugal, 241, &c.

‡ Murphy's State, 62.

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## CHAPTER IV.

## NATURAL GEOGRAPHY.

*Climate and Seasons.*—*Face of the Country.*—*Soil and Agriculture.*—*Rivers.*  
—*Lakes.*—*Mountains.*—*Forests.*—*Zoology.*—*Mineralogy.*—*Mineral*  
*Water.*—*Natural Curiosities.*

**CLIMATES AND SEASONS.]** THE climate of Portugal is familiarly known to be most excellent and salutary. At Lisbon the days of fair weather are computed to amount to 100 in the year; and those of settled rain seldom exceed 80. The medial heat is generally about 60°\*.

**FACE OF THE COUNTRY, &c.]** The face of the country is generally fertile, though with many acclivities; and in the N.E. corner there rises a considerable cluster of mountains, seemingly unconnected with the great Spanish chains: The numerous vineyards, and groves of orange and lemon trees, conspire with the crystal streams and verdant vales to impart great beauty and diversity to this favoured country. The soil, like that of Spain, is generally light; but the agriculture is in rather a neglected state. Meadows are little known, except in the N.W. province, between the Douro and the Minho; and many fine vales remain in a state of nature.

**RIVERS.]** The rivers of Portugal have been already enumerated in the description of Spain. The Tajo is here a noble stream, and its estuary near Lisbon affords a capacious haven, from two to nine miles in breadth. Among the native streams may be named the Mondego, which passes by Coimbra; the Soro, which runs into the Tajo; and the Cadaon, which forms the harbour of Situval. Scarcely a lake can be traced in the map of Portugal.

**MOUNTAINS.]** The mountains of this kingdom have not been exactly described. Those in the N.E. seem an unconnected cluster, as already mentioned; but the Spanish chain to the N. of Madrid, called by some the mountains of Idubeda, enters Portugal near the town of Guarda, and pursues its former course to the S.W. The chain of Arrabeda, in Estremadura, seems a branch or continuation of this: it is chiefly calcareous, and affords beautiful marble. In the province of Alentejo is a small chain, seven leagues in length by two and a half in breadth, running between the city of Ivora and town of Estremas, which may be regarded as belonging to the chain of Toledo.

**ZOOLOGY.]** The zoology of Portugal may be regarded as the same with that of Spain†. The horses are, however, much inferior. The sheep are also neglected, and far from numerous; but swine abound, and are fed with excellent acorns, so that the Portuguese hams are deservedly esteemed.

**MINERALOGY.]** The mineralogy of Portugal has been almost as much neglected as the agriculture. In the two northern provinces are seen immense mines, supposed to have been worked by the Romans, being perhaps the mines in the N. of Lusitania mentioned by ancient authors‡. The mouth of the largest, cut through the solid rock, is a mile and

\* Murphy's Travels, 220.

† Murphy's State, 25.

‡ For the botany, see Spain.

a half in circumference, and upwards of 500 feet deep; at the bottom it measures 2,400 feet by 1400. Many subterranean passages pierce the mountain like a labyrinth, and the whole works are on the grandest scale. Small veins of gold have been observed in the mountains of Goes and Estralla; and it is still found in the sand of some streams, as in ancient times the Tajo was celebrated for this metal. Under the domination of the Spaniards a mine of silver was worked, not far from Braganza, so late as the year 1628. Tin was also found in various parts of the northern provinces. There are lead mines at Murfa, Lamego, and Cogo; and the galena are ores very productive of silver; copper is found near Elvis, and in other districts. The iron mines are neglected, from a deficiency of fuel; though coal be found in different parts of the kingdom, and that of Buarcos supply the royal foundery at Lisbon. Emery is found near the Douro; and many beautiful marbles abound in this kingdom. Fullers' earth occurs near Guimerans. Portugal also boasts of antimony, manganese, bismuth, and arsenic; and near Castello-Branco are mines of quicksilver. Rubies have been discovered in Algarve; jacinths in the rivers Cavado and Bellas; beryl or aquamarine in the mountain of Estralla. In short, Portugal abounds with minerals of most descriptions; and nothing is wanting but fuel and industry.

**MINERAL WATERS.]** Nor is there any defect of mineral waters of various kinds. The baths of Caldas da Rainha, in Estremadura, are the most celebrated; and the next are those of Chaves.

**NATURAL CURIOSITIES.]** On the north bank of the river Douro is a high massy cliff, with engraved letters or hieroglyphics, stained with vermilion and blue; beneath which is a grotto, supposed to abound with bitumen.

### PORTUGUESE ISLANDS.

**AZORES.]** The Azores properly belong to Europe, and not to Africa, under which last division of the globe they have hitherto been classed. They are about thirteen degrees from Cape St. Vincent in Portugal, while the African shore is more distant by at least one degree; and their latitude rather connects them with Europe than with Africa: not to mention that they were first peopled by Europeans, and that this portion of the globe is too small to abandon any appendage.

The general accounts bear that these islands were all successively discovered by the Portuguese, before 1449, who gave them the name of Azores from the number of goshawks, which they here observed remarkably tame, there being neither man nor quadruped. But there is some reason to believe that they were not unknown before, though, being left uninhabited, they attracted little attention. The map executed at Venice in 1367, by Fr. Picigano, and preserved in the ducal cabinet at Parma, though it contain the Canary Islands, with their modern names, does not present the Azores; but that of Bianco, 1436, presents even the most remote and detached of these islands, Corvo and Florez. But such monuments cannot always be depended on, as additions may have been made a century after their first construction.

However this be, in 1466, the Portuguese king gave them to his sister the duchess of Burgundy; and they were in consequence colonized by Flemings and Germans, among whom was Job de Huerter, father-in-law of the celebrated geographer Martin Behaim, who resided in Fayal.



The subsequent history is rather obscure; but the Flemish inhabitants seem to have always acknowledged the king of Portugal.

The crown of Portugal having become united to that of Spain in 1580, the inhabitants of these remote islands appeared willing to reject the Spanish yoke, and to acknowledge Don Antonio as their sovereign. The French in consequence sent a body of troops to Tercera, commanded by De Chaste, in 1583, who were, however, defeated in a battle with the Spaniards\*.

These events seem to have excited the attention of the English during their warm competition with Spain; and in 1589, the earl of Cumberland fitted out four ships at his own expence, with which he cruized off the Azores. The account of this expedition was drawn up by Edward Wright, an excellent mathematician who was present, and supposed to have been the first author of the celebrated invention for the construction of charts, commonly called Mercator's projection, though it seem to have been known a century or two before, as it cannot be distinguished from that of several maps and charts in which the degrees of longitude are carelessly reduced to squares. It appears that the people of Florez still acknowledged Don Antonio as their king, and supplied the English with provisions. Some Spanish ships were taken; but the rich caracs had departed a week before their arrival. The town of Fayal was plundered†. In 1591, a glorious action was fought near the isle of Florez, by Sir Richard Grenville, in the Revenge, against fifteen Spanish ships of war; and though his vessel was reduced to a complete wreck, her gallant commander died on the second day of his captivity, rather of vexation than of his wounds. The account of this action is written by the celebrated sir Walter Raleigh. In the same year, 1591, captain Flicke commanded a cruising voyage to the Azores, and has himself drawn up an account of the expedition. The intention was, as usual, to watch for Spanish ships from the West Indies. The Spaniards having probably altered their arrangements, this practice of cruising off the Azores appears to have only continued for a few years; and the history of these interesting islands relapses into obscurity.

A furious earthquake is said to have been felt on the 9th of July 1757.

The chief isles are St. Michel, Tercera, Pico, or the Peak, and Fayal, with two smaller far in the west called Florez and Corvo. An excellent map was published at Paris, in 1791, from the observations of M. Fleurieu, and of Tosino the Spanish astronomer. St. Michel is represented as about forty British miles in length, by about twelve of medial breadth. The finest oranges are exported from this island to London; the large being called by the name of the isle, while the small are the noted pot oranges. Tercera is about twenty-five by fifteen. The Peak about thirty by ten; and is exceeded by St. George in length, but the breadth of the latter seldom exceeds five miles. The detached islands of Florez and Corvo are very small, especially the latter.

The volcanic mountain, which gives name to the Peak, is by some reported to equal that of Teneriffe in height. M. Adanson, who visited these islands on his return from Senegal in 1753, says that the Peak is about half a league in perpendicular height; the common French league being 2450 toises, the height would on this supposition

\* See Thevenot's Collection, vol. iv. for the voyage of De Chaste. The celebrated Herrera also gave a separate history of these transactions, Madrid, 1591, 4to.

† See this voyage in Hakluyt, vol. ii. or in Adley's collection.



be very moderate, not exceeding 7350 feet. In the views which accompany the French map, the Peak rises from the sea in the shape of a bell. This island is said to produce excellent wine.

The Peak of the Azores would form a very convenient first meridian of longitude, instead of the various and confused distinctions recently adopted; and which seem rather to originate in national vanity, than in any just principles of the science, which they greatly tend to obscure. Itself a most remarkable object, and placed near the western extremity of Europe, no situation could be preferable for this important purpose, which would tend so much to throw a clear and universal light on geographical positions.

In general the Azores are mountainous, and exposed to earthquakes and violent winds; yet they produce wheat, wine, fruits, and abundance of wood. The chief is Tercera (whence they are sometimes styled Terceras\*), being 15 leagues in circumference. The capital town is Angra, on the S.E. side of Tercera, with a harbour defended by a fortress, in which resides the governor of the Azores. Angra is a bishopric, with some handsome churches, particularly that of the Cordeliers; and there are two other monasteries, and four nunneries†.

According to M. Adanson, the harbour of Fayal presents a beautiful amphitheatre, clothed with trees; the town has 5000 inhabitants, but may be said to consist of convents: the governor is styled *Capitão mor*. The climate and soil are excellent, there being no occasion for fire in the winter. The trees are walnuts, chestnuts, white poplars, and particularly the arbutus or strawberry tree, whence the name, for Fayal in the Portuguese implies a strawberry‡. Cattle, &c. abound: yet almost

\* Tercera and Azores are of the same import. Tercera is the Tiercel of our falconry. (Note communicated.)

† Busching in his Geography, (iii. 590. Fr. tr.) has rightly placed the Azores after the description of Portugal; but he errs while he includes Madeira in the same description, not considering that the latter is far nearer to the coast of Africa than to that of Europe, and the general rule is to ascribe the isles to the nearest continent. Nor is his argument, that the Azores belong to Europe because the chief town Angra sends a deputy to the assembly of the states of Portugal, like the other towns of the kingdom, very cogent, as some of the Russian governments include portions of Asia and Europe.

The description of Busching is in his usual prolix and feeble manner, he being a dry compiler incapable of seizing interesting circumstances, but some hints may be extracted.

The Azores have also been called the *Flamengas*, or Flemish Islands, having been colonized by that people. St. Michel, the most populous, is said to contain 51,500 souls, besides 1393 religious. The produce of wheat and millet is very considerable, and that of wine computed at 5000 pipes. These particulars Busching seems to have drawn from the Historical Geography of Portugal, by Don Luiz Caetano de Lima, 1734, 8. folio. The chief town of St. Michel is Ponta Dalgada, which has 1879 houses, three churches, and seven convents. The next town is Villafraanca. The new isle, which arose in 1790 between St. Michel and Tercera, has since disappeared. Tercera is so called, because it was the third isle which was discovered. The episcopal city of Angra has a considerable port, on the east of which is a mountain called *Brazil*, a name probably given by the mariners from a supposed isle called Brazil, arbitrarily placed in the western ocean in some old maps. Angra is a neat city, the residence of the governor-general since the year 1766, and contains five churches besides the cathedral. Pico carries on a considerable trade in wine, which seems to be sold as Canary. The chief town of Fayal is Horta or Huerta probably corrupted with the name of Job de Huerta.

‡ In Portuguese (see the dictionary of Veyra), a strawberry is *morango*. In the same language *faya* is a beech tree, and *fayal* a place where beech trees grow, whence he speculatively says is derived the name of *Fayal*, an island of the Azores, so called from the number of beech trees growing in it. The arbutus is *metranho*, so that our author must be mistaken in his etymology.

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the only birds are a kind of blackbirds, speckled with white. Fayal is rather mountainous, and there is a volcano near the centre, but the last eruption was 1672. It is to be regretted that these interesting isles, like all other Portuguese settlements, are almost unknown\*.

## SWISSERLAND.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Divisions.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**NAMES.]** THE provinces now known by the collective name of Swisserland, were, in ancient times, distinguished by several appellations. By the Romans they were regarded as a part of Gaul; and the chief possessors were the Helvetii on the west, and the Rheti on the east; the chief city of the Helvetians being Aventicum, now Avenche. After the fall of the Roman empire, this interesting country may, in a general point of view, be considered as possessed by the Alemanni on the east, who also held Suabia and Alsace; and on the west, as a part of Burgundia, the inhabitants being styled *Burgundi trans Jurenfes*, because, with regard to France, they were situated on the other side of the mountains of Jura †. Divided among several lords, secular and spiritual, the inheritances of the former at length chiefly centered in the house of Hapsburg, afterwards the celebrated family of Austria; and, on its emancipation in the beginning of the fourteenth century, first appeared the modern denomination of Swisserland, either derived from the canton of Schweitz, distinguished in that revolution, or from the general name of Schweitzers, given by the Austrians to this alpine people. For the sake of precision, modern writers restrict the orthography of Schweitz and Schweitzer to the canton; while the general appellation for the people is the Swiss, and for the country Switzerland, or Swisserland.

**EXTENT.]** In length from east to west, Swisserland extends about 200 British miles, and in breadth, from north to south, about 130. The contents in square miles have been estimated at 14960; but the greater part is lost to human industry, consisting of vast rocks, partly covered with eternal ice and snow. Even of this country the boundaries are rather arbitrary than natural; though on the west mount Jura forms a grand division from France; and on the south the Pennine Alps, a partial barrier from Italy. On the east lies the Austrian territory of Tyrol, and on the north is Suabia, containing, as it were, an excrescence of Swisserland on the other side of the Rhine, the small canton of Schaffhausen.

**DIVISIONS.]** The Swiss league, before the French invasion, consisted

\* According to M. Kerguelen, (*Voyage dans la mer du Nord*, Paris 1771, 4to. p. 161.) there really exists an isle, or rather large rock, called *Rokol*, in lat. 57° 30' long. 16° W. of Paris; that is about five degrees S. W. of St. Kilda; another remote particle of Europe.

† D'Anville, *Etat actuel de l'Europe*, p. 10. 93.

of thirteen independent confederated cantons and their subjects and allies, according to the following list.

1. Canton of Berne, with the Pays de Vaud.
2. Canton of Friburg.
3. Canton of Basle.
4. Canton of Soleure.
5. Canton of Schaffhausen.
6. Canton of Zurich.
7. Canton of Appenzel.
8. Canton of Lucerne.
9. Canton of Zug.
10. Canton of Schwitz.
11. Canton of Underwald.
12. Canton of Uri.
13. Canton of Glaris.
14. Principality of Neuchâtel (subject to Prussia).
15. Bishoprick of Basle.
16. County of Baden.
17. The free Bailliages.
18. Turgovia.
19. Tokenburg.
20. The Rhinthal.
21. Lands of the Abbey of St. Gal.
22. Country of the Grisons.
23. Valteline.
24. Italian Bailliages.
25. The Vallais.

**ORIGINAL POPULATION.]** The original population is thought to have been Celtic, yet it would be difficult, either from history or from ancient appellations, to trace the residence of the Celts in Switzerland; and there is every reason, on the contrary, to believe that the Helvetians were a Gothic race, a very ancient colony of Germans.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of Switzerland may be traced with considerable clearness from the contest of Cæsar with the Helvetians, through the classic, Francic and native historians, to the present time.

**HISTORICAL EPOCHS.]** The chief historical epochs may be arranged in the following order:

1. The wars with the Romans; the subjugation of the Helvetii and Rheti, and the subsequent events till the decline of the Roman empire in the west.
2. The irruption of the Alemanni in the beginning of the fourth century, who are by some supposed to have extirpated the ancient Helvetians.
3. The subjugation of the western part of Switzerland as far as the river Reufs by the Franks, who annexed that portion to Burgundy. The Grisons on the east were subject to Theodoric, and other kings of Italy.
4. The conversion of the country to Christianity by the Irish monks Columbanus, Gallus, and others, in the beginning of the seventh century.
- 5th. The invasion of Alemannia by the Huns\*, in the year 909.

\* The Ugurs, so called by the writers of the time. They were a branch of the Vogulæ, a Finnish race.

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and the subsequent contests with these barbarians till the middle of that century.

6. About the year 1030 the provinces which now constitute Swisserland began to be regarded as a part of the empire of Germany; and in the course of two centuries they gradually became subject to the house of Hapsburg.

7. The commencement of the Swiss emancipation, A. D. 1307; and the subsequent struggles with the house of Austria.

8. The gradual increase of the confederacy; the Burgundian and Suanian wars; and the contests with the French in Italy.

9. The history of the reformation in Swisserland.

10. The insurrection of the peasants of Bern, in the middle of the seventeenth century.

11. The dissolution of the confederacy by the French invasion, A. D. 1798.

ANTIQUITIES.] The ancient monuments of Swisserland are not numerous, consisting chiefly of a few remains of the Romans, at Aventicum and Vindernissa. Some also occur at Ebrodunum, or Yverdun, and at Baden, the ancient Thermæ Helveticæ. Of the middle ages are many castles, churches, and monasteries; the most noble among the latter being the abbey of St. Gall, the library of which supplied the manuscripts of three or four classical authors, no where else to be found. Some interesting monuments relate to the emancipation of the country, and have contributed to extend the spirit of freedom from generation to generation.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion.—Ecclesiastical Geography.—Government.—Laws.—Population.—Army.—Navy.—Political Importance and Relations.*

RELIGION.] THE religion of the Swiss countries is in some the Roman Catholic, in others the Reformed. Of the former persuasion are Uri, Schweiz, Unterwalden, cantons which founded the liberty of the country, with Zug, Lucerne, Friburg, Solothurn, part of Glarus, and Appenzel. In these are found six bishopricks, and one metropolitan see. The reformed cantons are of the Calvinistic or presbyterian persuasion, being the rich and extensive canton of Berne, with Zurich, Basel, or according to the French enunciation Basle, Schaffhausen, the greatest part of Glarus, and some portions of Appenzel. The country of the Grisons is chiefly protestant; and Vallais, an ally of the thirteen cantons, has been the scene of atrocious persecutions on account of its disaffection from the Catholic faith; but the inhabitants, to the amount of about 100,000, now profess the Roman Catholic system. In general the two persuasions live in the most amiable unity and moderation.

GOVERNMENT.] The government of Swisserland has been a fertile theme of discussion. The most powerful cantons of Berne, Zurich, Lucerne, and Friburg, had retained much of the feudal aristocratic form; and the insurrection of the peasants, in the middle of the seventeenth century, united, with repeated discontents, to convey no high practical eulogy on the constitution, as these simple and honest vassals were not influenced by theories of sedition, but acted solely from their own feelings

of oppression. In the eye of the most candid observers the aristocracy had degenerated into a venal oligarchy, more intent on procuring the lucrative government of the bailliages than on the promotion of the general advantage. The other cantons were more democratic: but the recent subversion of the government by the French has for some time reduced Swisserland to a dependent province, with new divisions and arrangements. The laws of course partook of the nature of the government of each canton; and under the aristocracies were sufficiently jealous and severe. Yet Swisserland was one of the happiest countries in Europe, and recommended itself to the most intelligent observers equally by moral and by physical grandeur and beauty.

**POPULATION.]** The population of this interesting country is generally computed at 2,000, 00 \*, or about 130 to the square mile. But so large a portion is uninhabitable, that on a subtraction of such parts the number might be about 200 to the square mile.

**ARMY.]** The military force was reckoned at about 20,000; but in the late struggle with France this force appears to have been divided, and little effectual. The Swiss regiments in foreign service were computed at 29; but they returned weakened in frame and morals, and seldom proved serviceable to the state. The permission to serve in foreign countries has been loudly blamed as a moral deformity; but when we consider the poverty and population of Swisserland, we may conceive that the want of native resources conspired with the ambition and curiosity interwoven with the character of man, to stimulate the youth to this path of instruction and preferment, while the government only connived with the national wish.

**REVENUE.]** The ruinous effects of French extortion cannot be divined, but the revenue of Swisserland was formerly computed at somewhat more than a million sterling, arising from moderate taxation, from tolls, national domains, and foreign subsidies. The cantons of Bern and Zurich were considered as opulent, while in others the resources hardly equalled the expenditure.

**POLITICAL IMPORTANCE AND RELATIONS.]** The political importance and relations of Swisserland are immersed in those of the French republic. Should the Swiss emancipate their country, their chief object would be protection against the power of France; and in this view nothing could be so serviceable as a strict alliance with Austria.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Roads.—Inland Navigation.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** **A** MIDST the general corruption of manners, those of the Swiss have long excited applause, from their moral uniformity and frank independence. The houses are generally constructed of wood, in the most simple form, with stair-cases on the outside; yet their appearance singularly coincides with the picturesque character of the country. The dress of the

\* The enumeration of 1801 only gave 1,499,000.—*Wülker.*

lower ranks is little subject to the laws of fashion, and in many cantons there are regulations to prevent idle ornament. Among the superior classes the manners may be considered as partly German, and partly French: but it may be imagined that at present the latter preponderate. In general the Swifs are remarkable for an intense attachment to their native country; and there are few who do not return there to terminate their existence. This impression is almost irresistible, and liable to be awakened by the most minute circumstances. Hence in the French armies the tune called the *Rance des Vaches*, often sung by the Swifs milkmaids when they went to the pastures, was carefully interdicted, because it melted the rough Swifs soldier into tears, and seldom failed to produce desertion. This unconquerable passion seems to arise in part from a moral sensibility to the enchanting ease and frankness of the native manners; and in part from the picturesque features of the country, the verdant hills contrasted with Alpine snows, and delicious vales watered by transparent streams: scenes no where else to be discerned in such perfection, and which must powerfully affect the imagination, the parent of the passions.

LANGUAGE.] The language of Swisserland is a dialect of the German; but the French is much diffused, and is often employed by their best authors. In the most southern parts, bordering on Italy, the *Valtelline*, and other territories acquired from Milan, the Italian is the common tongue. Among the *Grisons* in *Engadina*, and in some other parts, is spoken what is called the *Romanesh*, which seems immediately derived from the Latin. The *Vallais* or that part of Swisserland watered by the Rhone, has also a particular dialect: and at the city of *Sion* the French begins to be spoken, as it is also the prevalent language in that beautiful part of the canton of *Berne* called the *Pays de Vaud*. The language called the *Vaudois* appears to have been confined to the valleys of *Piedmont*.

LITERATURE.] The early monuments of Swifs literature consist, as usual, of chronicles and lives of saints. Since the restoration of letters, and the reformation of religion, Swisserland boasts of many eminent names, as the reformer *Ulric Zwingli*, born at *Wildhausen*; *Herbik*, who called himself *Oporinus*, the printer; *Conrad Gesner*, born at *Zurich* in 1516, who published an universal library, and some treatises on natural history; and that noted quack *Paracelsus*. Among the writers of the last century may be named *Bernouilli*, the mathematician, a native of *Basel*; *Scheuchzer*, the natural historian; *Haller*; *John Gesner*, the natural philosopher; *Solomon Gesner*, the poet; *Bonnet*, *Hierzal*, and *Zimmerman*, physicians; *Rousseau*, and *Necker*, natives of *Geneva*; *Lavater*, the physiognomist; *Euler* the mathematician; and many others.

EDUCATION.] The important subject of education has been little illustrated by the travellers into Swisserland; but as they testify their surprise at the knowledge generally prevalent among the peasantry, there is reason to infer that this useful province is not neglected. There is an university of some reputation at *Geneva*; and another at *Basel*; with colleges at *Berne*, *Zurich*, and *Lucerne*.

CITIES AND TOWNS.] In enumerating the chief cities and towns of Swisserland, according to the comparative standard of population, *Basel* will engage the first attention, being supposed to contain 14,000 souls. This venerable city stands in a pleasant situation upon the banks of the Rhine, here broad, deep, and rapid, and suddenly turning to its long northern course, after a previous western direction\*. *Basel* crowns both

\* Cox, i. 149.



banks, and is united by a bridge. In the middle ages this city was named Basula, and appears in history soon after the age of Charlemagne. The cathedral is an ancient Gothic edifice, containing the tomb of the great Erasmus; and the university has produced many illustrious men.

Berne must claim the next rank to Basel, possessing a population of about 13,000\*. This city is of singular neatness and beauty, the streets being broad and long, and the houses of grey stone resting on arcades. There are several streams and fountains; and the river Aar almost surrounds the city. The adjacent country is rich and fertile; and the prospect of hills, lawns, wood and water, is bounded at a distance by the long chain of the superior Alps, rising like snowy clouds above the horizon. Berne contains several libraries and collections of natural curiosities.

Zurich is the third in rank among the Swiss cities, situated on a large lake, amidst a populous and fertile country, which produces abundance of wine for domestic consumption. The college and plans of education are respectable; and the public library contains some curious manuscripts.

Lausanne contains about 9000 inhabitants, and is deservedly celebrated for the beauty of its situation, though in some spots deep and rugged. The church is a magnificent Gothic building, having been a cathedral, while the Pays du Vaud was subject to the house of Savoy.

The other chief towns are St. Gal, an ally of Swisserland, under the former government; Mulhausen, also an ally; Geneva, a city of 25,000 inhabitants, has been assigned to France. Fribourg and Schaffhausen contain each about 6000 inhabitants; Lucerne, Solothurn, and Einsiedlen, about 5000 each. Few of the others exceed 3000.

**EDIFICES.]** The chief edifices of Swisserland are in the cities; and there are few examples of magnificent buildings erected by men of wealth or opulence. Inland navigation is partly interdicted by the mountainous nature of the country, partly rendered unnecessary by numerous rivers.

**COMMERCE AND MANUFACTURES.]** Commerce and manufactures do not much flourish in this inland region. Cattle constitute the chief produce of the country; and some of the cheese forms an export of luxury. The chief linen manufactures were at St. Gal. Printed cottons, and watches, also form considerable articles of sale, nor are silk manufactures unknown in Swisserland.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE AND SEASONS.]** THE climate of Swisserland is deservedly celebrated as salubrious and delightful. From its southern position considerable heat might be expected; but this, though sufficient to mature the grape, is tempered by the cold gales from the Alps and glaciers. When the sun descends beyond Mount

\* Cox, ii. 236.

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Jura, on a summer evening, the Alpine summits long reflect the ruddy splendour, and the lakes for near an hour assume the appearance of burnished gold. The winter is however in some parts extremely severe; and the summer heat in the deep vales sometimes oppressive.

FACE OF THE COUNTRY.] The face of the country is generally mountainous, the most level parts being the Thurgau, and a part of the cantons of Basel, Berne, Zurich, Schaffhausen, Soleure, and Friburg. Even these present what in some countries would be called mountains, from 2000 to 2500 feet above the level of the sea. No country in the world exceeds Switzerland in diversity of appearance. The vast chain of Alps with enormous precipices, extensive regions of perpetual snow, and glaciers that resemble seas of ice, are contrasted by the vineyard, and cultivated field, the richly wooded brow, and the verdant and tranquil vale, with its happy cottages and crystal stream. Agriculture cannot of course be carried to great extent; but there is no defect of industry, and the grain seems sufficient for domestic consumption. Barley is cultivated even to the edge of the glaciers; oats in regions a little warmer; rye in those still more sheltered; and spelt in the warmest parts. Yet in general the produce does not exceed five for one; and it has been necessary to support public granaries in case of any deficiency. For the country being principally destined by nature for pasturage, the chief dependence of the Swiss is upon his cattle, and the number being extraordinary, much land is laid out in winter forage, which might otherwise be productive of corn\*. A considerable quantity of flax is also cultivated; and tobacco has been lately introduced. The best vines are those of the Pays de Vaud, the cantons of Berne, and Schaffhausen, the Valeline, and the Vallais. There is also abundance of fruits, apples, pears, plums, cherries, filberts; with mulberries, peaches, figs, pomegranates, lemons, and other products of a warmer climate, in those districts which border upon Italy. The Vallais also produces saffron.

But pasturage forms the chief province of the Swiss farm; and the meadows are often watered to increase the produce of hay. In the beginning of summer the cattle are conducted to the accessible parts of the Alps by cow-herds, who either account to the proprietor for the produce, or agree for a certain sum. These herds also support many swine with the butter-milk and other refuse. Scheuchzer, in his first journey to the Alps, describes the numerous preparations of milk, which form the varied luxuries of the swains.

RIVERS.] The rivers of Switzerland are numerous; and among the most sublime scenes of this country must be classed the sources of the Rhine and Rhone, two of the most important streams in Europe. If we estimate their length of course through the Swiss dominions, the Rhine is the most considerable; and is followed by the Aar, the Reufs, the Limmat, the Rhone, and the Thur.

The Rhine rises in the country of the Grisons, from a glacier upon the summit of mount Bedus or Badur, at the head of a valley, about nine leagues in length, called the Rhinewald†. This mountain and valley are little visited, even by the Swiss, and the upper part presents dreadful deserts of ice and snow, through which the stream descends, sometimes visible, sometimes working a hidden track beneath frozen arches. The celebrated Saussure‡, than whom there cannot be a higher autho-

\* Batsching, xiv. 12.

† Cuvier, iii. 243. Bourrit, Descript. des Glaciers, tom. iii. p. 62.

‡ Voyage dans les Alpes, tom. vii. p. 72. 8vo.

rity on these topics, informs us that the farther Rhine, which he supposes to be so called because it is nearest to Germany, arises from a chain of mountains at the head of the valley of Disentis, called Crispalt, while their highest point is styled Badur: that the middle Rhine proceeds from the valley of Medelo, an appendage of St. Gothard: and these two torrents united receive a third from mount Avicula, called in French the Upper Rhine, and in German the Hinter Rhein, for in some French maps the names are inverted\*. The height is here about 6180 feet above the sea. From its source the Rhine pervades or borders Swisserland, for about the space of 200 British miles, running N.E. to the lake of Constance, whence it bends W. to Basel; where it begins its long northern course.

The Aar arises in the Alp called Grimsel †, but there is a farther source in the environs of that terrible summit styled the Schreckhorn, and another from the glaciers of Finsteraar: bending its course to the N.W. till it arrive near Arberg, it afterwards turns N.E. receives the Reufs and the Limmat, and joins the Rhine opposite to Waldshut, after a course of about 150 British miles.

The Reufs, which divides Swisserland into two almost equal parts, eastern and western, springs from the lake of Lucendro ‡ on the N.W. of St. Gothard. This lake is long and narrow, the upper part being surrounded with black precipices, spotted with eternal snow; while the lower presents a little verdant plain. From the other side of St. Gothard rises the Italian stream of the Tesino, which flows into the Po not far below Pavia. The Reufs joins the Aar, after a course of about 80 British miles.

The Limmat is composed of two streams, the Linth, which rises in the S. of the canton of Glarus, and the Mat §, which springs in the country of Sargans. About ten miles after their junction, the Limmat enters the lake of Zurich, whence it flows about 20 British miles before it join the Aar. On the banks of the Limmat commenced that dreadful conflict of the French against the Austrians and Russians, which extended down those of the Reufs, the line of battle being said to have reached for 90 miles; while for fifteen successive days the whole region seemed enveloped in fire and smoke ||.

The Rhone, a noble stream, can only be regarded as a Swiss river prior to its entering the lake of Geneva, after a course of about 90 British miles through that extensive vale called the Vallais. This river rises in mount Furca, the source being rather warm, and about 5400 feet above the sea. Yet in truth this source joins a more considerable stream, from an extensive glacier called that of the Rhone, where the majestic river-god resides in his palace of arches formed under perpetual ice \*\*.

The Thur, a moderate current, rises in the S. of the county of Tokenberg, and pursues a N.W. direction to the Rhine. Other considerable streams are the Sanu, and the Emme, which join the Aar; the Irm, which commences his majestic progress in the Grisons; the Adda, which waters the Valteline, and falls into the lake of Como; and the Tofs and Glatt, which join the Rhine.

**LAKES.]** The lakes of Swisserland are numerous and interesting. The

\*Mr. Coxe, and Bourrit, have confounded the Upper and Lower Rhine. See Weisse's map.

† Coxe, i. 342.

‡ Sauffure, vii. 44.

§ Weisse calls this river the Senes.

|| New Annual Register, 1799, p. 447. This conflict spread in breadth from the Reufs to the Rhine. In Mytenthall, to the east of Schweiz, Suwarroff was defeated.

\*\* Sauffure, vi. 284, &c.

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most considerable are those of Constance on the N.E., and Geneva on the S.W. The former is about 45 British miles in length, and in some places 15 in breadth. This beautiful expanse of water is by the Germans also styled the *Boden Zee*. Like all the other lakes of Swisserland, it is deeper in the summer than in the winter, owing to the melting of the snows, and is remarkable for producing large red trout.

The lake of Geneva extends, in the form of a crescent, about 40 British miles in length, and nine at its greatest breadth. The beauties of this lake have been celebrated by Rousseau; but would be considerably increased if it were sprinkled with islands.

Only a part of the lake Maggiore, or that of Locarno, is subject to Swisserland; but the lake of Lugano forms an extensive body of water in that region. The lakes of Neufchatel and Zurich are each about twenty-five miles in length, by about four in breadth. That of Lucerne is about 15 in length, and the breadth no where above three. Next to these are the lakes of Thun and Brienz; of Joux and Roufs, on the French confines; the lakes of Morat and Bienne, of Sempach, Zug, Wallenstadt, and others of inferior note.

**MOUNTAINS.]** The mountains of Swisserland are the most celebrated in Europe, and are supposed to yield in height to none, except those of South America, which derive their advantage from standing on an elevated plain. In a general point of view the Alps extend, in a kind of semi-circular form, from the gulph of Genoa through Swisserland, which contains their centre and highest parts; and terminate in the Carnic Alps on the N. of the Adriatic sea. This grand chain of mountains has, in ancient and modern times, been divided into different portions, known by distinct appellations. The maritime Alps are those which arise from the gulph of Genoa. Mount Genevre, whence springs the river Durance, was anciently named the *Alpis Cottia*, from Cottius, a prince who resided at Suza. Farther to the N. were the *Alpes Graia*, now the little *St. Bernard*. The *Alpes Pennina* consisted of the great *St. Bernard*, *Mont Blanc*, and the grand chain extending on the S. of the Rhone to the N. of modern Piedmont: the eastern part being also styled the *Lepontine Alps*, from a people who inhabited that region which gives origin to the Rhone and Tesino. The *Rhætian Alps* extended through the *Grisons* and *Tyrol*, terminating in the *Carnic*, or *Julian Alps*. That chain which pervades Swisserland, from mount Santez in the S.W. towards the sources of the Irm on the N.E. was known by the appellation of the *Helvetian Alps*. Some writers admit of more minute divisions, as the *Tridentine Alps* above Trent; and the *Noric Alps* above the source of the river *Tagliamento*. The extent of this vast course of mountains may be computed at about 550 British miles.

The central part of this magnificent chain may be considered as divided into two ridges, running almost parallel from the south-west to the north-east. The first ridge is that of the *Helvetian Alps*, of which the most conspicuous summits are the *Gemmi* or *Guemmi*, the *Schelenhorn*, the *Blumli*, the *Gielhorn*, the *Jungfrau* or *Virginhorn*, the *Eiger*, the tremendous *Schreckhorn*, or peak of horror, the *Grimsel*, the *Furca*; the extensive and somewhat devious ridges of mount *St. Gothard*, the *Badur*, and the glaciers to the north of the farther *Rhone*. Of this chain the *St. Gothard* has been long considered as one of the principal summits, because important rivers run from its vicinity in every direction; but this circumstance cannot be admitted to argue for its superior height, after the accurate observations of Sauffure; and rivers often spring from an inconsiderable elevation, passing in the bottoms between high mountains. The *Jungfrau*

seems the most elevated mountain of this chain; and to the west are several inaccessible peaks. Next in elevation seem to be the Eiger and the Schreckhorn\*. The summits consist of granite, and the sides disclose red slate, and calcareous masses. In general the granite appears in the south, and the calcareous superpositions on the north. To the south are large deserts and glaciers; and on the north is the romantic lake of Kandael Steig, whence there is said to have been a passage to Lauterbrun, amidst singular glaciers, sometimes resembling magical towns of ice, with pilastres, pyramids, columns, and obelisks, reflecting to the sun the most brilliant hues of the finest gems.

The southern chain of the central Alps rather belongs to the north of Italy than to Swisserland. It extends from mount Blanc and some eminences farther to the west, and embraces the great St. Bernard, the Weisch, mount Cervin, and mount Rosa. Passing to the north of the lakes of Locarno and Como, under the names of Vogelberg, St. Bernardine, Albula, Bernini, &c. it stretches into Tyrol, terminating in the Brunner, or Rhætian Alps on the S. of the Irm. This second chain has been ably illustrated by Saussure, who visited the summit of mount Blanc, the greatest elevation on the ancient continent, being 15,662 feet above the level of the sea. In his last journey Saussure also visited mount Rosa, which yields only sixty feet in height to mount Blanc, being about midway between great St. Bernard and the lake of Locarno, where our maps place a non-existence called mount Moro, to the N. of Macugnaga, in the vale of Anzasca. Yet some entertain doubts whether the tremendous, and hitherto inaccessible, heights of the northern chain do not exceed those measured by Saussure, and they certainly present sufficient objects for the ambition of future travellers.

It was reserved for this age of enterprize to disclose the secret wonders of the superior Alps. The enormous ridges clothed with a depth of perpetual snow, often crowned with sharp obelisks of granite styled by the Swis horns or needles; the dreadful chasms of some thousand feet in perpendicular height, over which the dauntless traveller sometimes stands, on a shelf of frozen snow; the glaciers, or seas of ice, sometimes extending thirty or forty miles in length, the sacred silence of the scenes before unvisited, except by the chamois and goat of the rocks; the clouds, and sometimes the thunder-storm, passing at a great distance below; the extensive prospects, which reduce kingdoms as it were to a map; the pure elasticity of the air, exciting a kind of incorporeal sensation; are all novelties in the history of human adventure.

With regard to the constitution of these grand chains, we learn from Saussure that the highest summits consist of a large-grained white granite; and sometimes hornblende, schorl, garnets, or pyrites, are interspersed. Beneath, and incumbent on the granite, especially towards the N. appear large masses of slate, which are followed by exterior chains of high calcareous mountains, and on the south by others of talcous rocks.

[BOTANY.] Swisserland from its southern climature and its elevated situation, may be considered with regard to its botany as an epitome of all Europe. From its low sunny valleys that open upon the Italian frontier, to the higher alps covered with glaciers and eternal snow, the travel-

\* Saussure, vol. vii. p. 193, informs us that mount Titlis, to the north of mount Furca, is 10,818 feet above the sea; and that the Schreckhorn, and the Finsteraar, south of the Schreckhorn, are at least 2400 feet higher. If so, these summits are about 13,218 feet, while mount Blanc is 14,700 French feet; by the measurement of Sir George Shuckburgh 15,662 feet English. General Pfeffer, who made a noted model of the northern Alps, computes the height of St. Gothard above the sea at 9075 feet, (Coxe, i. 320).



her may experience in succession the climates of Lapland, Germany, France, and Italy. Of maritime plants, on account of its inland situation, it possesses none; and many of those which adorn and perfume the arid tracts of heath in Spain and Portugal are equally wanting. The swamps of Holland also possess many that are strangers to Swisserland; but those species that delight in the pure invigorating air of the mountains, that drink life and fragrance from the dashing torrent, that bend over the margin of the transparent lake, and luxuriate in the sheltered recesses of the overhanging rock, flourish here in a profusion and glow of beauty that cannot be conceived by the inhabitant of lowland countries.

The spiry pinnacles of rock that rear themselves from among the perpetual snows that overspread the summits of the higher Alps, are almost wholly destitute of vegetation; a few of the crustaceous lichens, and here and there a tuft of *Silene acaulis*, and *saxifraga nivalis*, and *stellaris*, comprise the whole of their scanty flora.

From the very edge of the snow commences a zone of rocky pasturage, the native domain of the bounding chamois, but encroached upon for a few weeks in the height of summer by the sheep; covered with a short barren turf, except where the rills, trickling through, give birth to a more luxuriant vegetation: the effect of the cold is here strikingly displayed, not merely in the plants being all of them truly Alpine, but from their being shrunk and condensed into such minute specimens as to require a close inspection to be aware of their vast variety.

Still farther from the summits the pasturage becomes more abundant and accessible to the cattle for about forty days at midsummer; a few of the hardier shrubs begin to make their appearance, and the turf here assumes that truly enamelled appearance that is so characteristic of Swisserland. In the alpine valleys, and along the course of the torrents, vegetation assumes a more stately appearance; the juniper, the savine, the stone-pine, and alder, broken by nature into irregular thickets, diversify the scene; the cascades are overhung by bowers of the alpine rose; in the clefts of the rock are tufts of *saxifrages* and *auricula*, and the spongy hillocks are eminently resplendent with the ferruginous *rhododendron*, and trailing *azalea*.

Below all these, on the declivities of the mountains, commence the forests of larch, of pine, and fir, intermixed here and there with the yew, the mountain ash, and the birch.

Among these upper woodlands are the richest meadows of Swisserland, luxuriant with grass and clover, and ornamented with the yellow gentian, the white hellebore, the *actæa*, the alpine anemone, and innumerable other mountain plants.

Where the fir woods cease, the subalpine regions begin, diversified with meadows and corn fields, and forests of deciduous trees. The oak, the elm, the beech, the ash, the lime, and the hornbeam, are the most prevalent, and the borders of the streams are shaded by poplars and willows. The plants are chiefly those which occur in the north and midland parts of France and Germany.

The lowest and warmest situations in Swisserland are the plains and broad valleys of Geneva, of Basel, of the Pays de Vaud, of the Valtelline, and La Vallais; in these we meet with numerous vineyards, and the trees and plants of the south of France and Italy. The walnut, the chestnut, the fig, the pomegranate, the bay, and laurel, and the Cornelian cherry, are the most characteristic among the trees: the lavender, hyssop, *fraxinella*, several kinds of *cistus*, and the peony, are some of the chief of the herbaceous plants and lower shrubs. The valleys that open towards Italy

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Italy contain, besides, a few plants that are not found in the rest of Swisserland; such as the lilac, the caper-bush, the almond, and, among the fissures of the rocks, the Indian fig, and American aloe.

**ZOOLOGY.]** The horses of Swisserland are esteemed for vigour and spirit; and the cattle attain great size. Among the animals peculiar to the Alps may be first named the ibex, or rock goat. This animal resembles the common goat; but the horns of the male are extremely long and thick. It is more common on the Italian than on the Swiss Alps. The hair is long, and ash coloured, with a black list along the back. The ibex will mount a perpendicular rock of fifteen feet, at three springs, bounding like an elastic body struck against a hard substance. In the day he seeks the highest summits, but in the night the nearest woods, browsing on aromatic plants and dwarf birch, and in the winter on lichens.

Another singular animal is the chamois, which is commonly seen in herds of twenty or thirty, with a centinel who alarms them by a shrill cry. The colour is yellowish brown; but they sometimes occur speckled. The food is the lichen, with shoots of pine or fir. The marmot is common in the Swiss mountains. In summer they feed on alpine plants, and live in societies, digging dwellings in the ground for summer, and others for winter. About the beginning of October, having provided hay, they retreat to their holes, where they remain torpid till the spring. The skin of this little animal is used for furs. The marmot may be tamed, and shews considerable docility. The size is between that of the rabbit and the hare. Among alpine birds may be named the vulture, called also the golden or bearded vulture. It inhabits the highest alps, forming its nest in inaccessible rocks, and preying on the chamois, white hare, marmot, and sometimes on kids and lambs. The great eagle, absurdly called golden, is also seen.

**MINERALOGY.]** The mineralogy of this interesting country is not so important as we might be led to infer from its mountainous nature. Some of the streams wash down particles of gold\*. Mines of silver are mentioned, but the places are not specified. Copper and lead are also found: but the chief mines are those of iron, in the country of Sargans. In the canton of Berne there are valuable quarries of rock salt†: and it is said that coal and native sulphur are not unknown. But the grand stores of minerals are in Piedmont and the southern sides of the Alps. Rock crystal forms perhaps the chief export of Swisserland, being sometimes found in such large pieces as to weigh seven or eight hundred weight. The calcareous parts of the Alps often present beautiful marbles; and good slates are not uncommon. As to granite and porphyry, the country may be said to consist of them. Among the Alps are also found serpentines, asbestos, with jaspers, agates, and various petrifications. Among the mineralogic curiosities may be named the adularia, or glassy feldspar, on the mountains of Adula, and the tremolite, so called from mount Tremola, near St. Gothard.

**MEDICAL WATERS.]** Of medical waters, the most remarkable are those of Leuk. To the S.E. are the baths of Alvenew, which are sulphureous, and resemble Harrowgate water.

**NATURAL CURIOSITIES.]** To enumerate the natural curiosities of Swisserland would be to describe the country. The Alps, the glaciers,

\* Busching, xiv. 11.

† Keyser, l. 146, says that the salt works are at Bevier, Roche, and Paner, in the Pays de Vaud.

the vast precipices, the descending torrents, the sources of the rivers, the beautiful lakes and cataracts, are all natural curiosities of the greatest singularity and most sublime description. Of late the glaciers have attracted particular attention; but those seas of ice, intersected with numerous deep fissures, owing to sudden cracks, which resound like thunder, must yield in sublimity to the stupendous summits clothed with ice and snow, the latter often descending in what are called avalanches, or prodigious balls, which, gathering as they roll, sometimes overwhelm travellers, and even villages. Nay, the mountains themselves will sometimes burst, and overwhelm whole towns, as happened in the memorable instance of Pleurs, near Chiavana, in which thousands perished, and not a vestige of a building was left: nor are recent instances, though less tremendous, wholly unknown. The vast reservoirs of ice and snow give birth to many important rivers, whose sources deeply interest curiosity. As an example, the account which Bourrit gives of that of the Rhone may be selected. "At length we perceived through the trees a mountain of ice, as splendid as the sun, and flashing a similar light on the environs. This first aspect of the glacier of the Rhone inspired us with great expectation. A moment afterwards this enormous mass of ice having disappeared behind thick pines, it soon after met our sight between two vast blocks of rock, which formed a kind of portico. Surprised at the magnificence of this spectacle, and at its admirable contrasts, we beheld it with rapture. At length we reached this beautiful portico, beyond which we were to discover all the glacier. We arrived: at this sight one would suppose oneself in another world, so much is the imagination impressed with the nature and immensity of the objects. To form an idea of this superb spectacle, figure in your mind a scaffolding of transparent ice, filling a space of two miles, rising to the clouds, and darting flashes of light like the sun. Nor were the several parts less magnificent and surprising. One might see as it were the streets and buildings of a city, erected in the form of an amphitheatre, and embellished with pieces of water, cascades, and torrents. The effects were as prodigious as the immensity and the height; the most beautiful azure, the most splendid white, the regular appearance of a thousand pyramids of ice, are more easy to be imagined than described. Such is the aspect of the glacier of the Rhone, reared by nature on a plan which she alone can execute: we admire the majestic course of a river, without suspecting that what gives it birth and maintains its waters may be still more majestic and magnificent."

On the north of Swisserland the Rhine, near the village of Neuhausen, descends in a cataract of 40 feet amidst black and horrid rocks. Among the milder charms of the country may be named the lakes; and the small lake of Kandel Steig bears at one extremity the charms of summer, while the other presents the glaciers and pomp of winter. Numerous rills, which descend from the mountains, often fall in cascades of great beauty, among which that of Staubbach is computed at 900 feet, over a rock as perpendicular as a wall\*.

### VALAIS.

The Valais now forms a little independent republic. It is a rich valley watered by the Rhone, about 85 miles in length, and containing

\* Bourrit, *ibid.* 160.

about 90,000 inhabitants. The chief town is Sion, formerly the seat of the bishop. On the south of the valley is mount Simplon, where a noble road has been conducted from France into Italy.

## GERMAN STATES.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs.—Antiquities.—Religion.—Population.—Army.—Navy.—Language.—Literature.—Roads.—Face of the Country.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**I**N describing an extensive country, subdivided into many states, it becomes indispensable to give a general idea of the whole, before the respective territories are delineated. The geography of Germany is the most perplexed of any region on the globe, the great divisions, or *circles*, being now interwoven, and almost antiquated, while no modern and more rational distribution has yet appeared. This observation even extends to the inferior states.

**EXTENT.]** Germany, considered in its modern limits, extends about 600 British miles in length, from the isle of Rugen in the north to the southern limits of the circle of Austria. The modern breadth, from the Rhine to the eastern boundary of Silesia, is about 500 British miles; anciently the breadth extended beyond the Vistula, about 200 miles more to the east.

**ORIGINAL POPULATION.]** This country appears to have been full of extensive forests, even in the Roman period; and of course to have been in many parts thinly peopled, yet there are faint indications that the Cimbri, or modern Celts, possessed several tracts in the south, as they certainly occupied a large portion of the N.W. The N.E. of Germany was held by the Finnish nations; but both these and the Cimbri were obliged to yield to the invasion of the Scythians or Goths who migrated westward from their original seats on the Euxine, and had planted colonies in Germany, Britain, Gaul, and Spain, long before the Roman interference in the affairs of those countries.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of Germany, though an interesting topic, has never been ably illustrated. It appears that the central parts of Germany were little known to the ancients. The southern and western districts, as bordering on the Roman empire, had been partially explored. Roman ships had navigated the Baltic, and the Roman arms had penetrated nearly in a direction due east, to the nearest circuit of the Elbe near Magdeburg, in which quarter the trophies of Drusus were erected. On the S. the Sudetic mountains seem to bound the knowledge of the ancients; while through the centre of Germany, from the Rhine to the Vistula, extended the vast Hercynian forest.

The interior of this country remained unexplored till the age of Charles-

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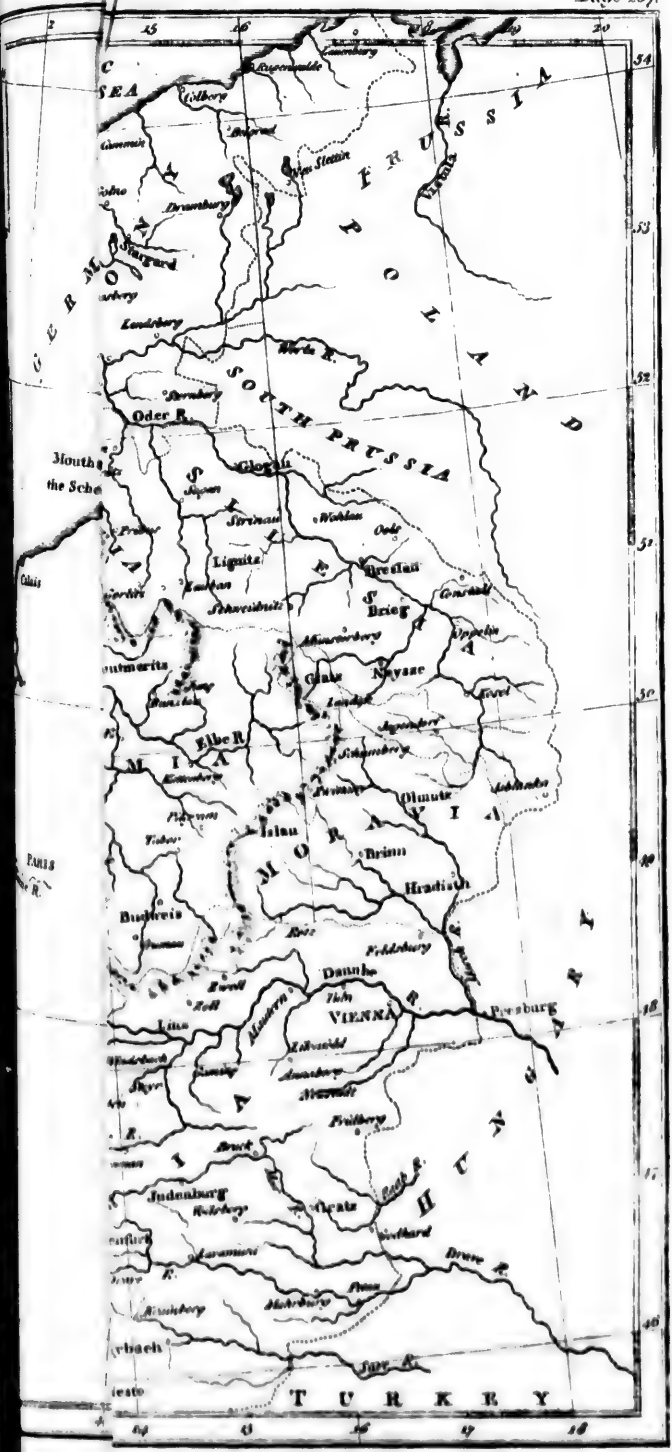
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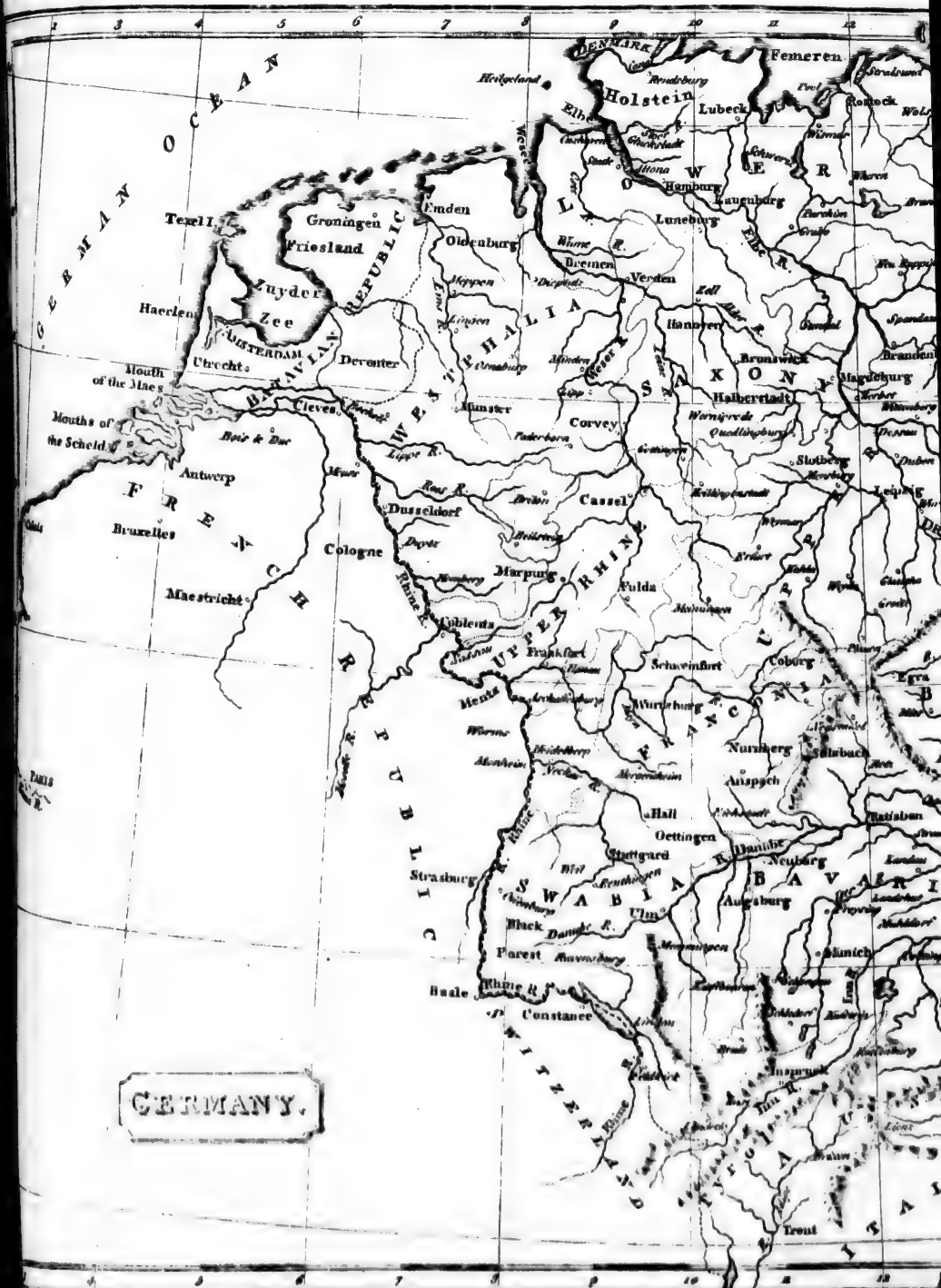
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Charlemagne, and the northern parts for some centuries after that period.

**HISTORICAL EPOCHS.]** Some of the grand historical epochs have already been mentioned, in describing those large portions of Germany, the Austrian and Prussian dominions; and some of the others may be briefly hinted in the account of the respective states. Suffice it here to mention: 1. The ancient period, chiefly resting on the account of the Roman and Francic historians. 2. The middle period. In the end of the eighth century, Charlemagne, having subdued the Saxons and other parts of Germany and Italy, was in the year 800 proclaimed emperor of the West. His successor Louis le Debonnaire held the empire with France; but his son Lothaire I. was restricted to Germany. After many intestine commotions Henry Duke of Saxony was chosen emperor in 918, and this line failing 1024, was followed by that of Franconia. In the twelfth century arose the factions of the Guelphs and Gibelines, and, after long contests, the sceptre was at length assigned to the house of Austria in 1273; and after some deviations continued to remain in that family. 3. The modern period, which may be traced from Charles V.; or from his grandfather Maximilian.

**ANTIQUITIES.]** The antiquities of Germany consist chiefly of a few Roman remains in the S. and W. It would be endless to enumerate the churches founded by Charlemagne; or the numerous castles, erected by powerful princes and barons.

**RELIGION.]** The religion of the greater part of Germany may be pronounced to be the Reformed, first introduced into Saxony by Luther. Yet the south continues firmly attached to the Roman Catholic faith, now chiefly supported by the house of Austria.

**GOVERNMENT.]** The government is that of an aristocracy, which elects a monarch, who may be of any family, Catholic, Lutheran, or Calvinist. To consider the constitution at length, which has been called by a German writer "a confusion supported by providence," would be foreign to the nature of this work. It has been recently overturned by the sword of Bonaparte.

**POPULATION, &c.]** The population of Germany in general is computed at little more than 25,000,000. It was supposed that the empire could, if united, send forth a contingent army of 400,000; but such calculations are visionary in the present state of affairs. The revenues, political importance and relations, are now detached, and have already been in a great part considered under the articles of Prussia and Austria. The manners, customs, and dialects vary according to the different states. The Saxon is accounted the purest and most classical idiom of the German tongue; and the southern dialects of Suabia, Bavaria, and Austria, the most uncouth. The literature will best be considered under each state; to style an author a German, being almost as vague as to call him an European, so distinct are the several states and the shades of civilization.

It will be remembered that in the descriptions of the Austrian and Prussian dominions are contained many of the eastern provinces of Germany. The part which remains is the western half, naturally divided into two portions by the river Mayn. The remaining objects to be generally considered in this western portion are chiefly the aspect of the country, the rivers, lakes, mountains, and forests, with the botany and zoology: other topics being more appropriated to each state.

**FACE OF THE COUNTRY.]** To the north of the Mayn, Germany chiefly presents wide sandy plains, which seem as if they had been, in the first  
ages

ages of the world, overwhelmed by the sea. A few hills begin to appear in the neighbourhood of Minden; and in the south of the Hanoverian dominions arise the most northern mountains of Germany, those of Blockberg, and others in the Hartz. To the S.W. are the mountains of Hefia, and others, extending towards the Rhine: while on the east the rich and variegated country of Saxony, one of the most beautiful and fertile in the empire, extends to the southern limits of the mountains of Erzgebirg, abundant in mines and singular fossils.

The regions to the south of the Mayn may be regarded as rather mountainous.

**RIVERS.]** Both portions are watered by numerous and important rivers. In the north the Elbe is the most distinguished stream, rising in the Sudetic mountains of Silesia: and after running south for about 50 miles, it suddenly assumes its destination of N.W., receives the Bohemian Mulda and Eger, the Mulda and Sala of Saxony, and the large river Havel from the east, and enters the sea near Cuxhaven, after a comparative course of more than 500 British miles. The chief cities on the banks of the Elbe are Dresden, Meissen, Wittenberg, Magdeburg, from which it runs almost a solitary stream to Hamburg. The tide is perceived to the height of 22 miles; and, when raised by the north wind, middle sized vessels may arrive at Hamburg, but they are in general obliged to anchor a mile below the city\*.

Not far to the west is the mouth of the Weser, which first receives that name when its two sources, the Werra and the Fulda, join near Munden, in the principality of Calenburg, about 16 British miles S.W. of Gottingen. The Werra springs in the principality of Hildburghausen; and the Fulda in the territories of the bishopric so called; the former having the longest course, and being justly considered as the chief source of the Weser, which thus flows about 270 British miles. The principal towns on this river are Bevern, Minden, and Bremen. The chief tributary stream is the Aller, from the duchy of Brunfwick. The inundations of the Weser are terrible, the adjacent towns and villages seeming to form islands in the sea: hence the shores are esteemed unhealthy.

The sources and mouths of the Rhine have been already described. This noble river forms the grand ancient barrier between France and Germany; and its course may be computed at about 600 British miles. On the German side it is deversified with mountains and rocks; but from Basel to Spire the shores are flat and uninteresting†. Near Mentz they become rich, variegated, and grand; and on the confluence with the Mayn the waters are distinguishable for many leagues. The Rhinegau is not only celebrated for its wines, but for the romantic appearance of the country, the river running through wild rocks crowned with majestic castles. Hence as far as Bonn the shores abound with beautiful and striking objects, the Rhine not seeming to assume his grandeur till after his junction with the Mayne.

In the southern part of Germany the most important river is the Danube, which according to the common opinion rises near the little town of Donaushingen in Suabia, but some place the sources a little farther to the north. This noble river becomes navigable a little above Ulm, where it receives the Iler. The next tributary stream of consequence is the Lech, which comes from Tyrol, a stream distinguished in the seat

\* Busching, vi. 16.

† Gardnor's Views on the Rhine.

of the recent war; as is the Iser, proceeding from Upper Bavaria. The Danube runs about 250 miles through this part of Germany, passing by Ulm, Ratibon, and Passau. To Orsova it may be considered as an Austrian river for about 550 miles; thence it is Turkish for 480 to the Euxine.

The Necker is a tributary stream of the Rhine, rising in the Black Forest, not far from the Danube, and running a picturesque course of about 150 British miles through a country variegated with vineyards. Another and grander tributary stream of the Rhine springs from the lake of Fichtel See, on the mountain of Fichtelberg, esteemed among the most elevated parts of Germany, as it gives source to four rivers running in various directions. This source is called the White Mayn; while another source, the Red Mayn, so called from the red clay through which it flows, rises near Hærnleinfreuth, in the principality of Bareuth. The Mayn, after receiving the Rednitz and other considerable streams, joins the Rhine to the S. of Mentz. The Mayn is a muddy stream, but abounds with trout, carp, and other fish. After pervading the rich bishopricks of Bamberg and Wurtzburg, and some territories of the see of Mentz, it waters the walls of Frankfort, formerly a city of celebrated trade; and has recently acquired fresh importance from being considered by German politicians as a natural boundary between the power of Prussia in the N. of Germany, and that of Austria in the S.

**LAKES.]** To the north of the Mayn Germany presents few lakes, the largest being in the duchy of Mecklenburgh, where the lake of Plau extends under various names about 25 British miles in length, by 6 in breadth. In the more southern and Alpine regions, the Boden See, or lake of Constance, is the most distinguished expanse of water, already described under Swisserland. Next is the Chiem See in Upper Bavaria, about 14 British miles in length by 5 in breadth, sometimes largely styled the sea of Bavaria. That circle, like most mountainous countries, also contains many other lakes of smaller account.

**MOUNTAINS.]** The most northern mountains in Germany are those of the Hartz, called the Brocken or Blockberg\*. These mountains rise in the form of an amphitheatre, the highest being what is called the great Blockberg. The river Ilse rises from the bottom; and other streams spring from the hills to the N. W. and to the E., the height of the great Brocken is 3021 feet; and of the little Brocken 2713.

In Westphalia there are some hills near Minden; and in the duchy of the same name, bordering on Hestia, are the mountains of Winterberg, Altenberg, Schlosberg, and others†. The Hessian territories may be regarded as generally mountainous, especially towards the north. Thence S. W. towards the Rhine are several considerable hills, among which may be mentioned those in the west of Wetterau, and the seven hills near the Rhine almost opposite to Andernach; with the ridge of Heyrich which protects the vines of Rhinegau. To the east of Frankfort on the Mayn are the hilly forest of Speffart, with the metallic heights of Fulda and Henneberg.

But the most celebrated mountains, in that part of Germany which lies to the N. of the Mayn, are the Erzgeberg, or Metallic Mountains, which rise to the N. E. of the Fichtelberg, running between Bohemia and Saxony, but supplying both countries with silver, tin, and other metals. The Erzgeberg are not of remarkable height, yet contain much granite like those of the Hertz and Hestia; with gneiss, in which most

\* Buching, x, 251.

† Reilbeck, viii, 8, 9.

of Saxon and Bohemian mines are found. Granular limestone also appears; and in Upper Lusatia an entire mountain is found of siliceous schistus, while Flinzberg consists almost entirely of milk-white quartz\*. Misnia contains mountains of pitchstone, and strata of hornblende. In Voigtland, near Averbach, appears the famous topaz rock, consisting of pale topazes in hard lithomarga. Micaceous schistus and slate also form portions of the Saxon mountains; with large masses of trap and basalt. Those of Hessa and the Hertz present nearly the same substances; and a summit of the Meißner consists of basalt resting on coal. The metals will be considered in the account of each country.

Among the German mountains to the S. of the Mayn may first be named the Bergstrass, a ridge passing from near Manheim to the vicinity of Frankfort. On the east are the high hills of Odenwald. Farther to the S. are the mountains of Wurtemberg, rising both on the E. and W. of that extensive duchy. On the W. the mountains form a continuation of those of the Black Forest, the mount Abnoba of Tacitus, whence he justly derives the source of the Danube; and the Helvetian forest of Ptolemy. The mountains of the Black Forest, in German Schwarzwald, extend from near Neuenburg, in the territories of Wurtemberg south to the four forest towns on the Rhine†. The southern part is called the High, and the northern the Lower forest; the length being about 80, and the breadth 20 British miles. The eastern part, as usual, presents a gradual elevation, while the western shews precipitous summits to the inhabitants of Baden and Alsace. The appellation seems to arise from the thick dark forests with which the ascents are clothed. A branch of the Black Mountains spreads E. from near Sulz on the Neckar towards the country of Oettingen, being more than 60 miles in length. This chain is called the Alb, and sometimes the Suabian Alps. The constituent parts of these extensive ridges have been little detailed; but a great part is calcareous, as they supply excellent marbles. Near Frudentadt in the Black Mountains are mines of silver and copper.

The south-east of this portion of Germany is bounded by the high mountains of Bavaria and Salz, or Salzburg; being branches or continuations of the Swiss or Tyrolese Alps, but without general appellations. Those bordering on Tyrol are granite; thence, as usual, argillaceous and calcareous in the lower parts‡. Large pieces of grass-green quartz are found, studded with red transparent garnets, and at Munich are worked into elegant snuff-boxes. The Alps of Salzburg exceed in height the Carpathian chain, or the Pyrenees, and only yield to the Swiss and Tyrolese Alps, the highest summits being computed at more than 10,000 feet above the sea.

**FORESTS.]** Considerable remains yet exist of the ancient forests which pervaded Germany. The German word *wald*, corresponding with the old English *weald*, denotes a forest. The chief of these appear always to have extended along the middle regions of Germany, from the N.W. towards the S.E. The Dromling-wald is to the north of Magdeburgh; but the Sollinge-wald, the woody mountain of Hartz, the Lutten-wald, the wide forest of Thuringia, may be said to be connected with the ancient forest of Silesia, hence extending far to the E. through the centre of Poland and Russia. More to the south, in this part of Germany, are the Spessart forest, and others. In the portion south of the Mayn, the vast Black Forest, and the woods along the Alb, are continued by others in various parts of Bavaria. In general the passion among the grandees for the chase

\* Kirwan, Geol. Ess. 174. 176. † Busching, viii. 481. ‡ Ferbours's Tour in Italy, 38

of the wild boar, and other pleasures of hunting, has contributed greatly to the preservation of the forests.

**BOTANY.]** As Spain is distinguished by its groves of cork trees and ilex, and Scandinavia by its fir woods, so is Germany remarkable for its deep and almost impenetrable forests of oak: not indeed that this is the inviolable characteristic of the country, for in an empire of such great extent, and of so varied a surface, it must needs happen that the native vegetable productions on the shore of the German ocean should differ considerably from those in the Black Forest, or on the frontiers of Tyrol. There is, however, on the whole, more uniformity than might be expected; and though perhaps few plants are absolutely peculiar to Germany, yet the abundance of some species, and the absence of others, forms a striking feature in the natural history of the empire.

To begin with the hedges and roadsides, as these are situations that impress on a traveller at least the first, and probably the most durable idea of the flora of a country. It will be remarked, that the lilac and syringa, which with us scarcely ever stray beyond the bounds of the shrubbery, are by no means of infrequent occurrence in the hedges of the north of Germany; the cornel, the sweet briar and cinnamon rose, are also common. Of the smaller plants the principal are lesser honeywort, winter cherry, yellow and least star of Bethlehem, evening primrose, and coronilla varia.

The pastures and edges of woods afford several kinds of iris and gentian: a number of bulbous rooted plants, particularly snowflake, narcissus, and daffodil: two kinds of hyacinth, the muscari and racemosus, and branched alphodel.

The vegetables of the woods and groves may be divided into the shrubby and herbaceous: to the first belong, besides the common forest trees and shrubs of England, branched elder; *Daphne cneorum*, *Mespilus Germanica*, pendent rose; bladder fenna and laburnum. Of the latter, the most worth notice are millet grass, *asclepias vincetoxicum*, lily of the valley, clustered hyacinth, martagon lily, *fraxinella*, baneberry, monkshood, green hellebore, and hepatica.

A few characteristic plants also are met with in the cultivated fields and vineyards, such as *tournefol*, blue pimpernel, and Carthusian pink.

**ZOOLOGY.]** The zoology of this western half of Germany corresponds so much with that of the Austrian and Prussian dominions, that little need be added. The German horses are generally more remarkable for weight than spirit. The German wild boar is of superior size; and those of Westphalia are in particular estimation. In the N. of Germany the lynx is sometimes seen; and the wolf is common in the south.

## CHAPTER II.

### THE CHIEF GERMAN STATES ON THE NORTH OF THE MAYN.

*Saxony.—Brunswick Lunenburg.—Hessia.—Mecklenburg.—Duchy of Brunswick.—City of Hamburg.—Smaller States.—Ecclesiastic Powers.*

IN this division of Germany the elector of Saxony must be regarded as the chief potentate, his territories being computed at 11,680 square miles, the inhabitants at 1,896,000, and the revenue at 1,283,333l. sterling. The name is derived from the ancient nation of the Saxons, who in the middle ages held the greatest part of the N. and W. of Germany, and



extended themselves thus far over Thuringia, towards the territories of the Lulitzi, a Slavonic tribe who gave name to Lusatia.

The countries comprised in the electorate of Saxony are, the duchy so called in the north, and Voigtland in the south; Lusatia in the east, and part of Thuringia in the west; with part of Misnia and Henneberg; being in length from E. to W. about 220 British miles, and in breadth from N. to S. about 130. The ancient dukes of Saxony sprung from the kings who defended themselves with such valour against France. Otho III. duke of Saxony became emperor in 936, and resigned Saxony to the house of Stubenskorn or Billing, which ended in 1106; and soon after this potent dukedom passed by marriage to the house of Bavaria. In 1180 the eastern part of Saxony was assigned to Bernard of Ascania, the western half being given to the archbishop of Cologne. The house of Ascania ended with Albert III, 1422; and was followed by that of Misnia. Ernest and Albert, sons of Frederic II., divided the territories in 1485, and formed two branches bearing their names. The Ernestine branch of the house of Misnia ruled till 1547, when John Frederic was deposed by Charles V., and the electorate assigned to Maurice of the Albertine branch, in which it continues. In order to gain the crown of Poland, the vain wish of the Saxon electors, Frederic Augustus, 1697, abjured the protestant religion; but neither he nor his successors have attempted to constrain the conscience of their subjects. The electorate suffered greatly by the invasion of the Prussians, in the war of seven years; has but since continued the tranquil and flourishing seat of arts and sciences.

The religion is the protestant, which was here introduced by Luther, and there are two bishoprics, Merseburg and Naumburg. The government is, as usual among the German princes, nearly absolute, but conducted with moderation through different councils. Yet there are states general of nobles, clergy, and burghesses, commonly assembled every sixth year to regulate the taxation; and the sovereign can issue no laws without their consent. The army is about 24,000, and the political weight of Saxony in this part of Germany is next to that of Prussia, with which it is naturally connected, and which it cannot with safety oppose. This beautiful electorate may indeed well be an object of ambition to the Prussian monarchs; but the jealousy of other powers has prevented the conquest.

The language and literature of Saxony are the most distinguished in Germany, most of the writers who have refined the language having been born, or having resided in this country, as Gottsched, who first introduced a superior style, and many others. Leibnitz, Wolf, and other philosophers were also born or resided in Saxony; among the artists may be named Mengs, Haffé, and Gluck. Leipzig is a celebrated mart of German literature. There are many schools, colleges, and academies; among the latter, the mineralogic academy of Freyberg, instituted in 1766, is esteemed the leading school of that science. The chief city is Dresden on the Elbe, of celebrated neatness; and about 50,000 inhabitants; but often exposed to the injuries of war. It is first mentioned about the year 1020; and displays many manufactures, with the palace and celebrated cabinets of the elector. Leipzig has near 30,000 inhabitants. Wittenberg has suffered greatly by war, particularly in the siege by the Austrians in 1760; and it is now chiefly celebrated as having been the residence of Luther. The manufactures of Saxony are thread, linens, laces, ribbons, velvets, carpets, paper, colours derived from various minerals, glass, and porcelain of remarkable beauty, and various works

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in serpentine stone. The country is also rich in native products, both agricultural and mineral, and beautiful pearls are found in the Elster in shells about six inches long\*. With such advantages Saxony maintains a considerable inland commerce; and Leipzig is esteemed one of the chief trading towns of Germany.

The climate is so favourable that wine is made in Misnia. The face of the country, especially towards the south, is beautifully diversified with hill and dale; and its richness between Meissen and Dresden is esteemed to rival that of the north of Italy. The land is well cultivated; the products, all kinds of grain and vegetables, with hops, flax, hemp, tobacco, saffron, madder, &c.†. Chief rivers, the Elbe, the Saal or Sala, the Mulda, the Pleisse, the Elster, with the Spree of Lusatia; all except the Elbe and Sala, rising in the mountains between Saxony and Bohemia. The mountains are those of the Erzgebirg, already described in the general account of Germany; and there are several small forests supplying fuel for the mines and domestic purposes. The botany and zoology are in general common with the rest of Germany; but the mineralogy is as usual particular, and few countries can boast of such fossil opulence. The mines of Johngeorgentadt produce silver, tin, bismuth, manganese, cobalt, wolfram, &c. The other mines are those of Freyberg, Annaberg, Ehrenfriedersdorf, Altenberg, Eibenthock, &c., producing silver, copper, lead and other metals. At Schneckenstein, near Averbach in the Voigtland, appears the topaz rock, unique in its kind. The tin of Saxony is not only a rare product, but is excellent. Jet is also found; and abundance of fine porcelain clay, with fuller's earth, marble, slate, serpentine, agates and jasper. The annual product of the silver mines has been computed, in the German style, at four tons of gold, or 40,000*l.* and is thought to be rivalled by that of the cobalt converted into the blue pigment called smalt. The tin, copper, lead, and iron, are also very productive. Nor must coal and turf be forgotten among the mineral productions of this remarkable region.

Next in consequence is the electorate of Brunswick Lunenburg‡, or, as often styled from the capital, the electorate of Hanover, containing about 8224 square miles, with 850,000 inhabitants, and the computed revenue 962,500*l.* sterling, while the military force is estimated at 20,000 *♂*. It is situated in the circle of Lower Saxony, and possessed by the descendants of a branch of that great nation called the Olf Fali, or northern Falias; while another branch to the west gave name to Westphalia. The countries comprised in the electorate of Hanover are chiefly the duchy of Luneburg, Bremen, and Verden, and Saxe Lauenburg adjacent to Holstein on the northern side of the Elbe; with the countries of Calenberg and Grubenhagen in the south, and those of Diepholtz and Hoya in the west, and that of Dannenberg in the east. The southern territory of Grubenhagen is detached from the rest by the principality of Wolfenbittel, the bishopric of Hildesheim, and the country of Halberstadt; the first being possessed by the duke of Brunswick, the second by its own bishop, and the third by the king of Prussia, having been transferred to the electoral house of Brandenburg by the treaty of Westphalia, 1648. Hence it may be computed that the compact part of the Hanoverian dominions extends in length, east to west, about 180 miles: and in breadth N. to S.

\* Busching, ix. 352.

† See Hoeck's Tables for minute particulars.

‡ On the continent, written and pronounced Lunenburg; the second *n* being added in English merely to give sound to the *e*.

§ This army consumes most of the revenue. See Hoeck.

about 100 miles; while the detached duchy of Grubenhagen, with fouthern Calenburg or the country of Gottingen, is about 80 miles in length by 30 in its greatest breadth.

The electors of Hanover spring from the ancient dukes of Brunswick. Bruno I., margrave of Saxony, A.D. 955, enlarged and embellished the city of Brunswick. In 1071 the emperor Henry IV. gave the duchy of Bavaria to Welf, son of Azo of Este, a powerful marquis in Italy, and of Cuniza, heiress of the first Welfs earls of Altorf in Suabia. His grandson, Henry Duke of Bavaria, acquired Brunswick along with Saxony. In 1195 William, son of Henry the Lion, and of Matilda of England, acquired Luneburg: and his son Otho, 1213, was the first duke of Brunswick and Luneburg. His son Albert I. 1252, was surnamed the Great. Magnus II. 1368, was surnamed Torquatus, from a large chain which he wore. His son Bernard retained Luneburg: while Brunswick passed to Henry the second son, and continued in his descendants till 1634. The dukes of Luneburg acquired some small portions of adjacent territory. Henry being put to the ban of the empire in 1521, was succeeded by his son, who only assumed the title of duke of Zell, a style which continued till the reign of George William 1665. In 1617, Christian duke of Zell obtained possession of Grubenhagen. In 1692 George William duke of Zell consented that the electorate, instituted in favour of his family, should be conferred on his younger brother, as he had no male heir. Ernest died in 1698, having married Sophia daughter of Elizabeth, daughter of James I. of England. He was succeeded by his son George Lewis, elector, 1698, and king of England, 1714. The later history of Hanover is little remarkable, except by repeated devastations of the French; and in the recent war it was only secured by the powerful interference of the king of Prussia.

The religion is the Lutheran. The government is now conducted by a council of regency, and there are provincial states, though rarely summoned. The political importance of this electorate cannot be highly estimated in the present state of German affairs; and from France or Prussia it can only be protected by the powerful mediation of England. The literature of this country has deserved considerable applause, since the institution of the university of Gottingen by George II.: it was founded in 1734, and solemnly opened 1737. The chief city is Hanover in the northern part of the principality of Calenburg, situated on the river Leine, amidst numerous gardens and villas. This city is first mentioned in the twelfth century; and is slightly fortified, containing about 15,500 inhabitants. In the new city, on the left of the Leine, is a library particularly rich in books of history and politics. Gottinge stands on the same river, containing about 7,600 souls, a neat and pleasing town, first mentioned in the thirteenth century. Verden, near the junction of Aller with the Weser, is of small account, but has recently sent some vessels to the Greenland fishery under the Hanoverian flag. Other towns are Luneburg, which imparts its name to the electorate; Lauenburg, Zell, with Einbeck and Osterode in the province of Grubenhagen. The manufactures and commerce of this electorate are pretty considerable, in metals from the Hartz, linen, cotton, fine broad cloths, &c. The silver fabrics of Zell are celebrated in Germany. The chief exports are metals, coarse linens, timber, peat, with some cattle and grain.

The aspect of the country is plain, partaking somewhat of the nature of Brandenburg, except in the south, where rise the lofty and picturesque mountains of the Harz. The agricultural products are whe-

rye, barley, oats, peas, haricots and pot-herbs of all kinds; with abundance of potatoes, good fruits, flax, hemp, tobacco, madder, &c. Wood abounds both for fuel and architecture, and affords considerable quantities of tar and pitch. Bees are particularly attended to. Horses, cattle, and sheep are numerous. The chief river is the Elbe towards the north; and the Wefer and Leine on the west; with the Aller and Ilmenau in the centre. Smaller streams are the Loha, the Lutter, the Fufe, with the Siber which pervades the Hartzwald in the south. There are a few small lakes, as that of Diepholtz, and Stinhudder; but none equal in size to those in the adjacent province of Mecklenburg. The Hanoverian dominions contain many small forests, and woods, besides those of the Hartz, already described in the enumeration of the German mountains. The mineralogy is rich, consisting of silver, copper, lead, iron, cobalt, zinc; with marble, slate, coal, turf, and limestone, the last particularly from the hill of Kalkberg near Luneburg. Two curious mineral substances, boracite and staurolite, are found, the former in the Kalkberg, the latter at Andreaenberg in the Hartz: which region likewise presents several singular features of nature, as the cavern of Blackenburg, the termination of which has never been explored, and the cave of Hamelen.

The bishopric of Osnabruck in Westphalia may be considered as an appanage of Hanover, adjoining to the county of Diepholtz. By the treaty of Osnabruck, 1648, it was decided that this bishopric should be possessed alternately by a catholic and a protestant, the former at the choice of the chapter; but the latter always a prince of the house of Hanover, who was to have the civil and criminal superiority; while the ecclesiastical affairs are administered by the archbishop of Cologne. Inhabitants about 120,000: revenue 26,250*l*.

Having thus described, at some length, the two chief and leading principalities on the north of the Mayn, a few others, the next in power, may be briefly mentioned; for it would be a vain waste of the reader's attention, and indeed only render his knowledge more confused and imperfect, if even short accounts were attempted of the 300 princes and states which crowd the labyrinth of Germany: princes whose territories under a monarchy would sink into the geographical obscurity of those of a peer or landed gentleman; and states which may be more aptly sought in a gazetteer, or in the minute and laborious pages of Busching.

In this secondary view of the north of Germany the first place must be assigned to Hesse, a country of no mean extent nor fame. Some districts, as usual, being assigned to princes of the family, the ruling state is denominated Hesse Cassel, so called from the capital. This territory is about 80 British miles in length, and nearly the same in breadth; miles square, 2760, with 750,000 inhabitants, military force 12,000. The derivation of Hessi from the ancient Catti is arbitrary, and it is now conceived to originate from the river Esse, which runs into the Fulda; but this land was a seat of the ancient Cattians. This country is generally mountainous; but there are many pleasant vales, sometimes containing vineyards, and fields fertile in corn and pasturage. It abounds in game and fish, and there are many fossils and minerals; the sands of the Eder contain particles of gold; and there was formerly a mine of that metal, but of small account, near Frankenberg. There are also found silver, copper, lead, coal, fine clays, with veins of marble and alabaster, and some medicinal waters. Detached parts are watered by the Rhine and the Mayn: the smaller rivers are very numerous. There are states of three orders, nobles, clergy, and burgresses from Cassel, Marburg, and other towns. The religion is the reformed, with two or three superintendants.

tendants. The universities are those of Marburg and Rinteln, and that of Gießen belonging to Hesse Darmstadt, ruled by another branch of the family. There is some trade from the natural products, and a few manufactures of linen, cloth, hats, stockings, &c. The chief city is Cassel, which contains about 22,000 inhabitants, and is pleasing, though often injured by war; the Hessians being more remarkable for exposing their lives abroad, than for a vigorous defence of their native country. Hanau is also a considerable place; and the country so called is supposed to contain 100,000 souls.

The duchy of Mecklenburg is supposed to contain 4,800 square miles, with 375,000 inhabitants, or by Hoeck's account 300,000. It is divided into two parts, known by the additions of Schwerin and Güstrow, full of lakes, heaths and marshes; and the soil being sandy, produces little but rye and oats. This country was long possessed by the Veneti, or Wends, being the farthest western settlement of that Slavonic nation; and the peasants remain in a state of servitude, as was the case in Denmark, and many parts of Germany. The states, consisting of nobility and burghesses, are assembled yearly to regulate the taxation. The religion is the Lutheran, with six superintendants; and an university at Rostock. The manufactures are wool and tobacco; the exports, partly by Lübeck, partly by Hamburg, are grain, flax, hemp, hops, wax, honey, cattle, butter, cheese, fruits, feathers, dried geese, tallow, linseed, wool, and timber. The ruling family descends from the old Venetic sovereigns. The branch of Mecklenburg Strelitz began in the end of the seventeenth century, and enjoys Ratzburg, Stargard, and other provinces.

The Duke of Brunswick shared a part of the Hartz, and its important mines\*. The face of the country resembles the electorate of Hanover. Here is a rich convent of nuns at Gandersheim of the Lutheran persuasion, the abbess being generally a princess of the family. There are several small manufactures; and the strong beer of Brunswick, called mum, is exported from Hamburg.

Nor must the city of Hamburg be omitted, being, after Vienna and Berlin, the third city in Germany, and supposed to contain 100,000 inhabitants, or by Hoeck's account 95,000; while no other, except Dresden and Frankfurt on the Mayn, contain more than 30,000. It was fortified by Charlemagne A. D. 808. The Elbe is here, including the islands, near a mile broad. The houses are rather commodious than elegant, and there are few fine streets, the population being overcrowded on account of the fortifications, built in the old Dutch taste, with spacious ramparts, planted with trees. It is ruled by a senate of 37 persons, the form being aristocratic. The religion is Lutheran. There are considerable breweries, and works for refining sugar, with some manufactures of cloth. Formerly the trade chiefly consisted of linens, woollens, wines, sugar, coffee, spices, metals, tobacco, timber, leather, corn, dried fish, furs, &c.; but at present it is the great mart of the commerce of the British isles with the continent. The bank was founded in 1619; and the numerous libraries do honour to the taste of the inhabitants. Its chief dependencies are the river of Alster, the bailliage of Ham, some isles and lowlands on the Elbe; and, besides some districts acquired from Holstein, the bailliage of Ritzebüttel, on the north of the duchy of Bremen, including the port of Cuxhaven, and the isle called Neuwerk, situated opposite to that port†.

\* Recently exchanged with Hanover for another district.

† Büsching, xi. 146—160.

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In this northern half of Germany are also Oldenburg, now a detached principality, possessed by 75,000 inhabitants; Swedish Pomerania, 103,000; the principality of Anhalt, 100,000; the territories of the princes of Nassau, 130,000; of the princes of Schwartzburg in Thuringia, 100,000; the princes of Waldeck on the north of Hesse, 80,000; the counts of Lippe, in Westphalia, 95,000; the counts of Reuss in Voigtland, which they share with the elector of Saxony, 66,000; and the city of Frankfort on the Mayn, 36,000.

The town of Papenburg is situated on the southern frontier of the principality of East Friesland, and the northern frontier of the county of Munster, to the eastward of the Ems, and about 24 British miles to the south of Emden. It belongs to the Baron of Landsberg Veelen. The town at present contains two churches, 400 houses, and 3000 souls.

The other chief powers are ecclesiastic: 1. The elector of Mentz, the first in the empire, has lost his capital city, and Worms on the left bank of the Rhine; but he still holds a large territory on the Mayn, with Erfurt, a city of 15,000 inhabitants in the northern region of Thuringia, and the surrounding domain. 2. The elector of Trier, or Treves, whose extensive dominions, being chiefly on the left of the Rhine, are seized by the French. 3. The elector of Cologne, whose territories are chiefly in the like predicament, but who possesses the province called the duchy of Westphalia. 4. In Westphalia are the bishopricks of Munster, of Osnabruck, and Paderborn; the rich bishoprick of Liege is immersed in the French conquests. 5. In Lower Saxony that of Hildesheim. 6. In the Upper Rhine that of Fulda; and 7. the large bishoprick of Wurtzburg, in Franconia, is chiefly on the north of the Mayn. The ecclesiastical electorates were computed each at more than 300,000 inhabitants; and the bishoprics, from that of Hildesheim, the smallest, 70,000 to Wurtzburg, 200,000. These extensive fees, founded and enlarged by the policy of Charlemagne and his successors, partly for the more speedy and effectual conversion of the pagans in the north of Germany, and partly to balance the rising power of the aristocracy, which afterwards proved so ruinous to the empire, have been recently secularized.

### CHAPTER III.

#### THE GERMAN STATES ON THE SOUTH OF THE MAYN.

*Electorate of Bavaria conjoined with the Palatinate.—Duchy of Wurtemberg.—Anspach—Salzua.—Smaller States.—Ecclesiastic Powers.*

AS in the northern division of Germany there are, exclusive of the Prussian dominions, two preponderating powers, the electors of Saxony and Hanover; so in the southern division, exclusive of Austria, there are two superior potentates, the Elector Palatine and of Bavaria (these electorates being now conjoined), and the duke of Wurtemberg.

The elector of Bavaria and the Palatinate is the chief of all these secondary powers, his dominions being computed at 16,176 miles square, with 1,934,000 inhabitants, or, according to Hoeck, 1,844,000. The French having seized more than half of the Palatinate on the left bank of the Rhine, (a mountainous region, but abounding in mines of quicksilver



and other valuable metals,) the remaining part, on the right bank of the river, is about twenty-four British miles in length, by the same at its utmost breadth; but contains the best part of the principality, pervaded by the river Neckar, producing excellent wines, and enriched by the cities of Mannheim and Heidelberg. The first palatine of the Rhine was Eberhard of Franconia, A.D. 925. The Lutheran religion was established in 1556, and in 1563 appeared the famous catechism of Heidelberg: but since 1685 the Catholic system has predominated. In the thirteenth century the house of Bavaria acquired the Palatinate by marriage, and from it the modern family descended. Frederick V., Elector Palatine, 1610, married Elizabeth daughter of James I. of England; and aspired to the crown of Bohemia, but was vanquished, and the electorate transferred to the house of Bavaria: yet by the treaty of Westphalia, 1648, his son regained a part of his dominions, and was created an eighth elector of the empire. This branch, failing in 1685, was succeeded by the collateral branch of Deux Ponts. In 1693 the Palatinate was rendered almost a desert by the notorious ravages of the French.

The history of Bavaria is yet more important. The country was governed by dukes, under the kings of Austrasia; and in the ninth century princes of the Francic family assumed the style of kings of Bavaria, while Liutpold, 889, was the first duke; and his progeny extend to the present day, though interrupted in 946, when, Berthold dying without children, the emperor Otho gave Bavaria to his brother Henry, of Saxony. In 1071 Welf, son of Azo of Este, became duke of Bavaria; which in 1138 passed to the house of Austria, but in 1154 returned to the house of Welf, in the person of Henry the Lion. In 1180 it finally returned to the first family, by the succession of Otho of Wittelbach, a descendant of Arnolf, second duke of Bavaria, after the family had been unjustly deprived for more than two centuries. The emperors Lewis, 1314, and Charles VII., 1740, were of this family.

The duchy of Bavaria is divided into Upper and Lower, and what is called the Higher Palatinate (or that of Bavaria). The length from N. to S. is somewhat interrupted, but may be about 150 British miles, and the breadth about 120. Upper Bavaria is, in a great degree, mountainous, and covered with forests, interspersed with large and small lakes. Lower Bavaria is more plain and fertile. There are mines of silver and copper near Podenmais, in the bailliage of Viechtach, and of lead at Reichenthal, with many quarries of marble, and mineral springs. But the chief mineral riches of Bavaria consist in the salt springs at Traunstein, which occupy many people in productive industry. The mountains of Upper Bavaria may be considered as branches of the Alps. The chief rivers are the Danube, the Inn, the Isar, the Lech, and the Nab; and in the Palatinate the Neckar. The religion is the Roman Catholic, which, as usual, damps the spirit of industry; and the manufactures are of small account, the chief exports being corn and cattle. The revenue is computed at 1,166,600*l.*; and the military force at 12,000: both being greatly inferior to the smaller electorate of Saxony. The chief city is Munich, esteemed the most elegant in Germany, with 38,000 inhabitants; in Lower Bavaria are Landshut and Strauben; Ratibon, though seized by the elector of Bavaria, 1703, is regarded as a free and imperial city. In the palatinate of the Rhine is Mannheim, supposed to hold 24,000 inhabitants; and Hiedelberg, noted for wines, and formerly for a valuable library transferred to the Vatican. This city, amidst the infamous destruction of the Palatinate, was reduced to mere walls, but afterwards restored by the industrious Lutherans.

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The Bavarians are little distinguished in literature ; but are a vigorous race, adapted to the fatigues of war. There is however an university at Ingoldstadt, and an academy of sciences at Munich. The states consist, as usual, of clergy, nobility, and burghesses ; but before the accession of the house of Deux Ponts, the administration had become the most lethargic of any in Germany. At present this electorate is intimately connected with the French republic.

The second potentate in the south is the duke of Wurtemberg, whose dominions are computed at 3,200 square miles, with 600,000 inhabitants. This duchy derives its name from the castle of Wurtemberg, situated in the bailliage of Canstatt. There were earls of Wurtemberg in the twelfth century ; and in 1495 the ducal title was conferred on earl Everard. In case of the extinction of the family, the house of Austria pretends to the succession, and even now assumes the title and arms of Wurtemberg. The dukedom of Teck was added in the fourteenth century. The revenue is computed at 245,000*l.*, the military force at 6000. This duchy forms the most considerable and fertile part of the circle of Swabia ; and is indeed, after Saxony, one of the best in the empire. The mountains of the Black Forest on the west, and those of the Alb on the S. and E., not only diversify the face of the country, but supply timber, fuel, and mines. The chief grain is spelt, and some barley and wheat, with flax, &c., and the fertility suffices even for export. The wines of the Neckar are not so abundant as to supersede the use of cyder. There are mines of silver and copper near Freudenstadt, and at Konigswart ; of silver at Konigsstein ; and of copper at Guttach, near Hornberg. Cobalt, sulphur, coal, porcelain clay, marble, alabaster, with the salt works at Sulz, constitute the other mineral productions. There are many warm baths and medical springs, and the chief river is the Neckar, which, with the Nageld, and its other tributary streams, enlivens and fertilises the duchy. The states consist of fourteen superior clergy, and the deputies of sixty-eight towns and bailliages. The religion is the Lutheran, with some Calvinists, and some colonies of the Vaudois. The church is ruled by four superintendants, who are styled abbots, and thirty-eight rural deans : a synod is annually held in the autumn. Education and ecclesiastical studies in particular, are favoured by laudable institutions, not to be found in any other protestant country. The seminary of Tubingen used to contain about 300 students ; and there is an academy of education at Stutgard. There are manufactures of pottery, glass, woollen, linen, and silk ; which, with the natural products of the country, supply a considerable export : the imports are by Frankfort on the Mayn. The chief city is Stutgard, agreeably situated on a rivulet which flows into the Neckar, and the ducal residence since the year 1321. Some of the buildings are elegant, and there is a cabinet of natural and artificial curiosities. The second town is Tubingen on the Neckar, with an university founded in 1477. The other towns are small but numerous, and the villages thickly placed in a populous and flourishing country.

Among the secondary powers, in this southern division of Germany, must first be named Anspach, or Onoltsbach, which, with Bareuth, maintains a population of 320,000 on 2,300 square miles. These regions are mountainous and sandy ; but near the Mayn yield good wine. The chief mines are of iron, the others being neglected. Near the Fichtelberg, Bareuth produces a variety of beautiful marbles, and some curious minerals. The principality of Bareuth is also known by the name of Culmbach ; and, with Onoltsbach, forms the chief power in Franconia, now annexed to the sovereignty of Prussia.

The country of the Salz, also called Salzia, and the archbishoprick of Salzburg, is a compact and interesting region, about 100 English miles in length, and 60 at its greatest breadth; computed at 2,880 square miles, and a population of 250,000; by Hoeck's account, only 200,000. The archbishop is primate of all Germany, the see being founded by St. Rupert, an Englishman, in 716. The chapter consists of twenty-four persons, of noble extract; and in political affairs is wholly ruled by Austria, there being twenty-two Austrians in the chapter. The archbishoprick possesses many fair lordships in Austria, Stiria, and Carinthia. Salzburg, the ancient Juvavum, has an university, with about 20,000 inhabitants; the other towns being of little moment. The Roman Catholic system has banished many industrious inhabitants, who have chiefly taken refuge in the Prussian dominions. The salt works at Hallen, about twelve miles S. of Salzburg, are very lucrative. There are also in Salzia some mines of silver and lead; and one of gold at Gastein, and others along the northern side of the Alps to Zillerthal. The copper is often impregnated with gold, which used to be a source of gain to the melters of Nuremburg and Augsburg.

This grand southern division of Germany also contains the territories of the Margraves of Baden, 832 square miles, with 200,000 inhabitants; the lands of Hesse Darmstadt, belonging to another reigning branch of the house of Hesse, residing at Darmstadt, and also possessing territories on the northern side of the Mayn, both estimated under the article of Hesse. The imperial city of Nuremburg has considerably declined, but it still contains about 30,000 souls, while Ulm has not above half the number. To enumerate other small secular principalities would only obstruct the intention of this description, which is to impress on the memory the more important.

But as the intention of secularizing the numerous and wide ecclesiastical territories in Germany must engage much political consideration, it is proper to add here, as has been done in the former chapter, a list of the chief sees to the south of the Mayn. 1. The archbishoprick of Salzburg, being among the leading powers, has been already described. 2. The large bishoprick of Wurtzburg, being chiefly on the north of the Mayn, has been mentioned in the former chapter: the next in importance, but often held in conjunction with the former, is that of Bamberg, supposed to contain 180,000 inhabitants. 4. The bishoprick of Speyr, or by the French enunciation Spire, was supposed to contain 50,000, but of these probably one half, on the west bank of the Rhine, are now subject to France. 5. The bishoprick of Aichstett, in the southern extremity of Franconia. 6. Suabia presents the large and opulent bishoprick of Augsburg, with an extent of territory about 70 English miles in length, but the medial breadth not exceeding twelve. 7. Of Constance, whose territories also extend into Swisserland. 8. A great part of the bishoprick of Straßburg. 9. The large abbatial territories of Kempen, Buchau, and Lindau: with the priory of Ellwangen, in the north. 10. The bishoprick of Passau, in Bavaria, is computed at 25,000 inhabitants. 11. That of Freysingen, with the county of Werdenfels, near the Rhetian Alps, at 23,000. 12. The bishoprick of Ratisbon, which is of small extent.

Recently, the constitution of the German Empire has been annihilated. The kings of Bavaria and Wurtemberg, the electors or grand dukes of Baden and Hesse, and other princes near the Rhine, have formed a grand confederation, acknowledged by Prussia; the emperor Francis II., by his declaration of August 2, 1806, formally resigned the title and power of emperor of Germany, only retaining that of Austria.

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## ITALIAN STATES.

## CHAPTER I.

## GENERAL DESCRIPTION OF ITALY.

*Division:—Boundaries.—Extent.—Original Population.—Present Population.—Face of the Country.—Rivers.—Lakes.—Mountains.—Botany.—Zoology.*

THE classical and interesting country of Italy has been so repeatedly described, that it has become familiar even to the common reader. This description shall therefore be restricted to very narrow limits; and will also of necessity be somewhat abridged by the present unsettled state of the country, which, on many topics, scarcely leaves materials even for conjecture. Hence the political and civil departments of geographical description are almost obliterated; and this brief account shall chiefly delineate those lasting features of nature which no political change can influence.

**DIVISIONS.]** Italy may be regarded as having been in all ages of history, divided into three parts, the southern, the central, and the northern. The southern part having received many Greek colonies was honoured with the ancient appellation of Magna Græcia: the centre was the seat of Roman and Etrurian power; while the northern was the Cisalpine Gaul. In the middle ages the kingdom of Lombardy and that of Naples occupied the two extremities, while the church and Tuscan states held the centre. In more modern times, the most distinct division has been the kingdom of Naples in the south: but the centre, and the north, have passed into various subdivisions and denominations. For which reasons, and the present uncertain state of the country, the northern and middle parts shall be considered rather geographically than politically; the chief mouth of the Po being assumed for the limit on the E., thence following that river till it is joined by the Panaro, (the ancient Scultenna,) up to its source near Castiglione; and thence in a westerly line to the gulph of Spezia, thus tracing nearly the boundary between the former spaces of the church, and those of Modena, while the gulph of Spezia, (Portus Lunensis,) almost the eastern reach of the Genoese territory, presents a natural and remarkable boundary in the west. These divisions shall be briefly considered in the succeeding chapters, while this is dedicated to the general description of Italy.

**BOUNDARIES, &c.]** The boundaries of this renowned country are deeply impressed by the hand of nature, in the Adriatic and Mediterranean seas, and the grand barrier of the Alps, which divide it from France, Switzerland, and Germany. The length of Italy from mount Rosa, the highest summit of the Italian Alps, to the Cape de Leuca, is about 670 British miles; while the medial breadth between the Adriatic and Mediterranean is about 100; but from the Adige, the recent limit of Austrian power, to the eastern frontiers of the new French departments of Liman and Mont Blanc (formerly Savoy), the breadth is about 200 miles. The original population of the south consisted of Pelasgi from the Peloponnesus; the northern part of Illyrians, who were succeeded by German Gauls; and the Etruscans of the centre are said to

to have been of Lydian extract. The Romans seem to derive their origin from the early Greek colonies; and their language was regarded as an *Æolic* dialect of the Greek: but as they proceeded from the most barbarous part of Greece at an early epoch, it was a considerable time before their manners, rendered ferocious by incessant wars, assumed a tint of Grecian civilization. The successive population, progressive geography, historical epochs, and antiquities of Italy, are familiar to every reader, but will occasionally be briefly commemorated in the succeeding chapters. It is almost superfluous to add, that the religion is the Roman Catholic. The present population of Italy, with the islands of Sicily and Sardinia, cannot be estimated at more than 13,000,000\*. The kingdom of Naples and Sicily contains about 6,000,000; the central part about 3,000,000; and the northern about four. The manners, customs, and dialects are various and discordant, though the general language be the Italian, esteemed the purest in Tuscany, while the enunciation is most perfect at Rome.

[FACE OF THE COUNTRY.] Italy presents such a variety of scenery, decorated with such noble architecture, and venerable remains of ancient art, amidst a climate generally serene, though liable to violent rains, and such delicious tints of aerial perspective, that the painter of landscape is enraptured, and can render but feeble justice to the picturesque features and glowing hues of nature. In the north the sublime scenery of the Alps is contrasted with the fertile plains, through which many classical streams flow into the Po. In the centre there are many marshes and standing waters, which occasion what is called the *mal aria*, or a pernicious distemperature of the air; but the varied ridge of the Apennines, and the beautiful prospects of Florence and Tivoli, excite universal admiration. A great part of the kingdom of Naples is mountainous; but the country generally beautiful; yet in addition to the fiery eruptions of Vesuvius and Etna, it is exposed to the terrible effects of frequent earthquakes, and the enervating *sirocco*†.

[RIVERS.] Italy is intersected with rivers in almost every direction, of which the Po is by far the most large and extensive. This noble river, called by the ancients Padus and Eridanus, rises from mount Vesula, or Vifo, on the very confines of France and Italy, nearly in the parallel of mount Dauphin, or Dauphiné, and Saluzzo, in Piedmont, being almost central between them, at the distance of about eighteen English miles from each. Thus descending from the centre of the western Alps, the Po passes to the N.E. of Saluzzo, by Carignan, to Turin; receiving, even in this short space, many rivers, as the Varrita, Maira, and Grana from the S., and from the N. the Felice, Sagon, and others. Most of these streams having had a longer course than what is called that of the Po; the Maira, for instance, might perhaps be more justly regarded as the principal river: nay, the Tanaro, which flows into the Po some miles below Alexandria, might perhaps claim, in the river Stura, a more remote source than the Po itself. After leaving the walls of Turin, the Po receives innumerable rivers and rivulets from the Alps in the N. and the Apennines in the S. Among the former may be named the Doria, the Tesino, the Adda, the Oglio, the Mincio; to the east of which the Adige, an independent stream, descends

\* Boettcher.

† Any pernicious wind is in Italy called *sirocco*, in the south applied to the hot blasts from Africa, in the north to the bleak winds from the Alps.



from the Alps of Tyrol, and, refusing to blend his waters with the Po, pursues his course to the gulph of Venice. From the south the Po first receives the copious alpine river Tanaro, itself swelled by the Belba, Bormida, and other streams. The other southern rivers are of far less consequence, but among them may be named the Trebbia, the river of Parma, and the Banaro, which joins the Po at Stellato, on the western frontier of the former territory of Ferrara. The course of the Po may be comparatively estimated at about 300 British miles. The numerous tributary rivers, from the Alps and Apennines, bring down so much sand and gravel, that the bed of the Po has in modern times been considerably raised, so that in many places banks of thirty feet in height are necessary to preserve the country from inundation. Hence hydraulics have been much studied in the north of Italy; and the numerous canals of irrigation delight and instruct the traveller. In the middle ages maritime combats took place on the Po, between Venice and some of the inland powers. It is remarkable that, from Cremona to the sea, there is no capital city founded on the main stream of the Po; and the case was the same in ancient times; an exception to the supposition that every river has some grand city near its estuary.

The other rivers of the north of Italy, as the Adige, the Brenta, the Piave, and the Tagliamento, must now rather be regarded as Austrian streams.

In the centre first appears the Arno, which rises in the Apennines, and flows by Florence and Pisa into the gulph of Genoa. The Tiber, an immortal stream is by far the most considerable in the middle, or south of Italy, rising near the source of the Arno, S.E. of St. Marino, and passing by Perugia and Rome, to the Mediterranean, which it joins after a course of about 150 British miles. The Tiber is said to receive about forty-two rivers, or torrents, many of them celebrated in Roman history; as is Rubicon, a diminutive stream, now the Fiumicino, which enters the Adriatic, about eight British miles to the N. of Rimini. In this central part of Italy many small streams flow from the Apennines, both to the Mediterranean and Adriatic; but after the Tiber no river can be mentioned in this or the southern division, whose course deserves the notice of general geography.

**LAKES.]** Italy contains many beautiful lakes, particularly in the northern division. The Lago Maggiore, Greater Lake, or lake of Locarno, is about twenty-seven British miles in length, by three of medial breadth; and the shores abound with alpine beauties, receiving the waters of some other lakes, among which must be mentioned that of Lugano on the east. This lake formerly adjoined to the Milanese territory, and contains the beautiful Boromean isles, celebrated by many travellers. Still farther to the east is the lake of Como, which is joined by that of Lecco: the lake of Como is about thirty-two British miles in length, but the medial breadth not above two and a half. Yet farther to the east is the small lake of Iseo, which is followed by the noble Lago di Garda, an expanse of about thirty British miles in length by eight in breadth.

In the central part of Italy the largest lakes are those of Perugia and Bolsena, with those to the north of Rieti. Some small lakes are also celebrated, as that of Albano, shaded by trees and rocks, and that of Nemi in the same vicinity, about seventeen miles S.E. from Rome. In the Neapolitan part is the lake of Celano in the north; and that of Vagano, near mount Gargano. In the island of Sicily, that of Beverio, near Lentini, is the most remarkable.

**MOUNTAINS.]**



MOUNTAINS.] The most important mountains of Italy are the Alps, already in a great measure described, under the article of Switzerland. The maritime Alps rise from the sea to the west of Oneglia, and are succeeded by other denominations, extending due north to mount Blanc, the ancient boundary of Savoy, and now a French mountain. The most remarkable passage through the maritime Alps is the Col de Tende. Few summits in this western chain have received particular denominations; the chief are mount Viso, which gives source to the Po, and mount Cenis, a noted passage to Turin. Other names are, mount Genevre, mount Iseran, Roch Michel, &c. In general the western Alps rise, in successive elevation, from the sea to mount Blanc. Saussure has explained, with his usual ability, the composition of this chain of the Alps\*. The calcareous mountains near Geneva are followed by granitic mixtures of mica and quartz, with argillaceous schistus, and serpentine. From mount Blanc the grand chain of the Italian Alps bends N.E., presenting the high summits of the great St. Bernard, and mount Maudit, Combin, Cervin, and mount Rosa, the last nearly approaching mount Blanc itself in height. Mount Rosa forms, as it were, a circus of gigantic peaks, surrounding the village of Macugnaga, a singularity of form strongly contrasting with mount Blanc, and supposed to impart the name from some resemblance to an expanded rose†. While mount Blanc, and the adjacent high summits, are composed of vertical strata, the most elevated peaks of mount Rosa are horizontal, or not inclined more than 30°. The structure is equally different; for as mount Blanc consists of vast masses of granite, mount Rosa is chiefly of gneiss, or schistose granite, and other flaty rocks.—So various are the great operations of nature, where theory would expect similarity.

From mount Rosa this grand chain continues its progress N.E. by Simplon, &c. through the country of the Grisons to the glaciers of Tyrol, terminating in the Salzian Alps.

The next grand chain of Italian mountains is that of the Apennines, which are at first a branch of the Alps, separating the plains of Piedmont from the sea‡. They begin near Ormea, in that high ridge which now forms the boundary of the French department of the maritime Alps, and stretch without any interruption along both sides of the gulph of Genoa, at no great distance from the sea, giving source to many rivers flowing to the north and to the east. In the south of the former territory of Modena, after giving rise to the Panaro, and Reno, they proceed almost due east to the centre of Italy, where they afford sources to the Arno, and the Tiber, and thence pass S.E. to the extremities of Italy, generally approaching nearer to the Adriatic than to the Mediterranean. The noted mount Gargano is, as it were, a spur of the Apennines to the north of the gulph of Manfredonia. In general, the Apennines may rather be regarded as hills than as mountains. Perber § found them to consist, to the S. of Bologna, of stratified grey hard limestone, with a few petrifications. Yet in the Genoese territory, and Tuscany, appear not only the beautiful marble of Carrara, but rich serpentine, here called Gabbro, with steatite and asbestos. What is called granitone is also found, consisting of white felspar and green mica ||. The territory of Sienna presents some granitic hills, with slate, serpentine, and the noted yellow marble with black veins, found at

\* Voyage, tome v.  
§ Italy, 76.

† Saussure, viii. 34.  
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Montarenti, and many metallic ores; this district being, after Piedmont, perhaps the richest mineral region in Italy; but the hills seem rather distinct than connected with the Apennine ridge.

Having thus briefly considered the chief ridges of Italian mountains, those sublime features of the country, the volcanoes must not be omitted. They only occur in the southern division, and have recently received scientific illustration from the able and accurate pen of Spallanzani. Vesuvius is a conic detached mountain, about 3,600 feet high, but seems chiefly calcareous, like the Apennines, as it frequently ejects marble, calcareous spar, gypsum, and similar substances\*. The lava is sometimes mingled with felspar, quartz, or granite, seemingly ejected from great depths. The terrors of an eruption, the subterranean thunders, the thickening smoke, the ruddy flames, the stony showers ejected to a prodigious height, amidst the coruscations of native lightning, the throes of the mountain, the eruption of the lava, descending in a horrid and copious stream of destruction, have exercised the powers of many writers, but far exceed the utmost energy of description.

Yet Vesuvius, placed by the side of Etna, would seem a small ejected hill, the whole circuit of its base not exceeding 30 miles, while Etna covers a space of 180, and its height above the sea is estimated at about 11,000 feet†. This enormous mass is surrounded by smaller mountains, some of which equal Vesuvius in size; and while the lava of the latter may devolve its stream for seven miles, Etna will emit a liquid fire thirty miles in length. The crater of Vesuvius never exceeds half a mile in circumference, while that of Etna is commonly three, and sometimes six miles. Spallanzani has minutely described the crater of Etna, which many travellers have pretended to visit. It was an oval, extending from E. to W., inclosed by vast fragments of lava and scorix; the inner sides being of various declinations, incrustated with orange coloured concretions of sal-ammoniac. The bottom was a plain, nearly horizontal, about two thirds of a mile in circumference, with a large circular aperture, giving vent to a column of white smoke, at the bottom of which was visible a liquid fiery matter, like metal, boiling in a furnace. Such is the height of Etna, that the eruptions rarely attain the summit, but more usually break out at the sides. Near the crater begins the region of perpetual snow and ice; which is followed by the woody region; consisting of vast forests of oak, beeches, firs, and pines, while the upper is almost destitute of vegetation. In this middle region also appear chefnut trees of enormous size. The lava and substances ejected from the crater are mostly the same as are met with at Vesuvius; but a peculiarity is, that in many parts of the circumference of this mountain there are prismatic columns of basalt.

The islands of Lipari, to the north of Sicily, also contain many volcanoes, of which Stromboli is the chief. This crater is distinguished from any other by constant momentary eruptions of showers of stones, which, from its position in the side of the hill, are confined, and relapse into the volcano; thus supplying endless materials‡. The isle called Vulcano presents a most capacious crater; but the materials of eruption seem exhausted. The isle of Lipari, containing the town so called, presents vast rocks of volcanic glass; and the hill called Campo Bianco, three miles from the town of Lipari, contains almost all the pumices which are employed for various purposes in Europe. Felicuda, and Alicudi, the two extreme Liparian islands towards the west, also display

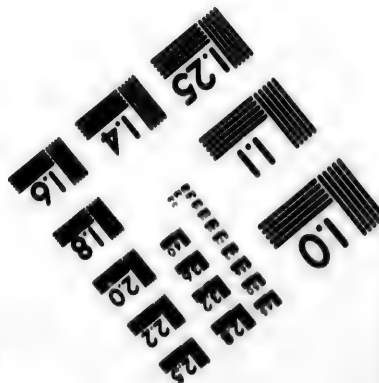
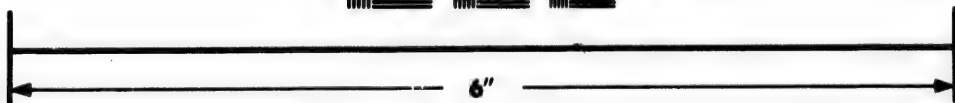
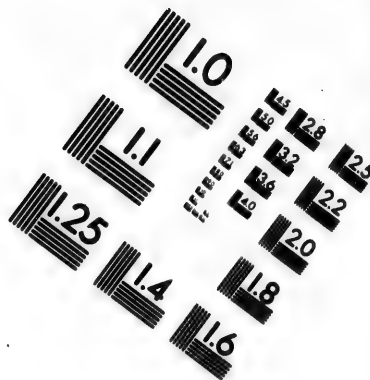
‡ Lib. v. 221.

\* Ferber, 139.

† Spallanzani, i. 195.

‡ Lib. ii. 52.





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proofs of their having anciently contained volcanoes : and recent authors have discovered similar proofs in the isle of Ischia, and in those of \* Ponza, to the north of the gulph of Naples ; while that of Capri, to the S. of that gulph, is supposed to be chiefly calcareous.

**FORESTS.]** There are still some remains of forests in some parts of the Appennines ; but the early civilization of Italy seems to have been disadvantageous to the growth of timber. The woods of mount Gargauo are celebrated by the ancient classics, and the forests of Etna appear to be extensive.

**BOTANY.]** It is probable that the botanic treasures of Italy are at least equal to those of any other European country on account of the great variety of its soil, the irregularity of its surface, and the general benignity of its climate : excepting however Piedmont, which has been ably surveyed by Allioni, the rest of this fine country, especially its southern provinces, has by no means received that degree of notice which it merits : the vale of Enna, the forests of Apulia, the romantic scenes of Calabria, and the warm shore of the Tarentine bay contain a rich harvest for future naturalists, and will no doubt grace the flora of Italy with many new species.

The Alpine barrier of the north of Italy, and the long range of the Appennines present a number of plants, inhabitants of the highest mountains, which have already been enumerated in the botany of Switzerland.

The western coast has been perhaps the best explored, and has in consequence been found to be profuse of beauties : the stately tree heath, with two elegant shrubby euphorbias, the evergreen arbutus, and the tamarisk, mantle over the summits of the cliffs, or bend midway from them towards the sea : the dryer rocks, and of a more scanty soil, are crowned with the great aloe, while their sides were adorned with the Indian fig. The stony beach, and the sandy recesses of the bays delight the eye with the snowy blossoms of the caper bush, and the glow of the amethystine eryngo, with the lavender, the rosemary, the glaucous foliage of the strong scented rue, and the stately growth of the lavatera arborea.

The sides of the streams are bordered by the oleander, the myrtle, the Cornelian cherry, and the Spanish reed, whose tall jointed stem, and long simple leaves almost emulate the bamboo of India.

The dry heathy tracts of the interior of the country are covered with heaths, cistuses of various species, the sumach, cinnamon rose, sage, and other aromatic plants.

Among the trees, besides the common ones of Britain, we find the olive, the date plumb, the storax tree, the bead tree, the almond, the pomegranate, the azarole plum, the pyracantha, the carob tree, the ilex, the pistachia, the manna tree, the cypress, the date palm, the lemon, the orange, the fig, and the vine.

Of the flowering shrubs, and lower trees, the principal are the lilac, the jasmine, and yellow jasmine, the syringa, the laburnum, the Spanish broom, the provence rose, the laurustinus, the bay, and the laurel.

In the southern parts, cotton, rice, and the sugar-cane indicate the fertility of the soil, and the warmth of the climate ; and the fields, and pastures, as far as they have been examined, bear a striking resemblance in their native products to those which have been already mentioned, as evening the southern provinces of Spain.

**ZOOLOGY.]** The Italian horses are of little reputation. The cows &

\* See Dolomieu sur les Isles Ponces, Paris, 1768. 8vo.



the Lodezan, where the noted cheese is now made, which was formerly produced near Parma, are described by Mr. Young as generally of a blood-red colour, long, lank, and ill made\*. The buffalo is in Europe almost peculiar to Italy; an animal, though tame, of ferocious aspect, and as different from the bull as the ass is from the horse. In manners he somewhat resembles the hog, being fond of wallowing in mud; his flesh is coarse, and his hide, though light, is so firm as to have supplied the buff coat, or armour of the seventeenth century. Originally as is supposed from Africa, he is little adapted to any cold climate. The marmot and the ibex are also reckoned among the animals of the Apennines; and the crested porcupine is esteemed peculiar to the south of Italy.

## CHAPTER II.

### THE SOUTHERN PART OF ITALY.

#### *Naples and Sicily, with the adjacent Isles.*

**NAPLES AND SICILY.]** THIS division comprises the kingdom of Naples and Sicily; being divided from the central part chiefly by an arbitrary line; nor has nature indeed marked any precise distinction, except some rivers were assumed as boundaries, towards the Mediterranean and Adriatic. Sicily is about 170 British miles in length, by 70 of medial breadth: while this part of Italy exceeds 300 miles in length, by 100 in breadth. Square miles, 29,824, with six millions of inhabitants.

After the fall of the Roman empire this part of Italy underwent various revolutions. The powerful princes of Benevento survived the conquest of the north of Italy by Charlemagne; and with other potentates in this quarter acknowledged the supremacy of the Greek empire, from which Sicily had been wrested A.D. 828 by the Saracens, who possessed it till A.D. 1058 †. A pilgrimage to St. Michael of mount Gargano induced the Normans to attempt the conquest, which was gradually accomplished, both Saracens and Greeks being expelled. The Norman leaders became dukes of Apulia, Calabria, and Sicily; and Roger was named king of Sicily by the pope, A.D. 1130. The Norman line continued till their kingdom was subdued by Henry VI. emperor of Germany. After internal contests Charles of Anjou became king of Sicily 1266: after the massacre of the French called the Sicilian vespers, 1282, Sicily was seized by a fleet sent by the kings of Arragon, but Naples continued to acknowledge the line of Anjou, which expired in the infamous Jean 1382. René of Anjou was king of Naples 1435, but the French line failed in 1481, in Charles Count de Maine, who named Lewis XI. king of France his heir, whence the pretension of France to the kingdom of Naples. The Spanish line of Naples and Sicily continued till 1714, when they passed to the house of Austria; but were transferred to that of Bourbon 1736, in the person of Don Carlos duke of Parma and Placentia, son of Philip V. king of Spain, and of Elizabeth of Parma; who succeeding to the crown of Spain 1759, conferred his

\* France, ii. 191.

† Sardinia was subdued about the same time, and was regained by the Pisans and Genoese in the year 1016.

Italian kingdom on Don Ferdinand his third son, who married the sister of the emperor of Germany in 1768. The kingdom of Naples has been since assigned to prince Joseph, the brother of the French emperor, and afterwards to Joachim Murat, his brother-in-law.

Though the religion be the Roman Catholic, the Inquisition has been carefully excluded. Few men of distinguished genius have recently appeared in this portion of Italy, which is overrun with priests and lawyers; but among the latter Giannone has distinguished himself by his spirited history of his country. There are no less than 20 archbishopricks, and 125 episcopal sees; but no university of any reputation. The ecclesiastics are computed at 200,000; and it is supposed that about one half of the lands is in their possession. The government is nearly despotic. The laws are contained in the Codex Carolinus published in 1754. The political importance is inconsiderable.

The chief city is Naples, esteemed after Constantinople the most beautiful capital in the world: the inhabitants are computed at 380,000. Palermo in Sicily is supposed to contain 130,000. Messina was nearly destroyed by an earthquake, 1783; but Bari is said to contain 30,000 souls, and Catania 26,000. Besides excellent wines, oranges, olives, rice and flax, this kingdom abounds in cattle; and some parts are celebrated for the produce of manna and saffron. The manufactures, particularly those of silk and woollen, date from the reign of Ferdinand I. of Arragon; and these with the native products, constitute the chief articles of trade. The mines are few and inconsiderable, as may be expected in a volcanic country; the chief are near Fiume di Nili in Sicily, where there are mines of antimony; and specimens are found of gold, lead, silver and copper\*. Iron manufactures have been recently instituted near Naples, but the mines and the agriculture are alike neglected; and Sicily, anciently so fertile in grain, is now of little account. The revenue is computed at 1,400,000*l.* sterling; and the army at 40,000. There are about four ships of the line, and four frigates. The mountains have been already mentioned in the general description of Italy, consisting chiefly of the Apennines which branch out through Apulia to Otranto, and through Calabria to Cape Spartivento. The rivers are inconsiderable, being chiefly the Garigliano, which under the name of Liri may be traced from near the lake of Celano to the gulph of Gaeta. The Volturno passes by Capua, while the Sangro from an adjoining source runs to the Adriatic. The others are rather rivulets; nor can those of Sicily aspire to a higher appellation, the chief of the latter being the Himera, or Salso, running to the south. The natural curiosities of these regions are numerous and interesting, independent of the grand volcanic appearances. About six miles from Girgenti, and very remote from Etna, there is a singular volcano, which in 1777 darted forth a high column of potter's earth, of which there are continual ebullitions from about sixty small apertures†. Spallanzani has explained the noted wonders of Scylla and Charybdis; the former being a lofty rock on the Calabrian shore, with some caverns at the bottom, which by the agitation of the waves emit sounds resembling the barking of dogs. The only danger is when the current and winds are in opposition, so that vessels are impelled towards the rock. Charybdis is not a whirlpool, or involving vortex, but a spot where the waves are greatly agitated by pointed rocks, and the depth does not exceed 500 feet. The isles of Lipari contain many natural curiosities, as the rocks of volcanic glass, and the spacious cavern in Felicuda called the Grotto

\* De Non. 402.

† De Non, 240.

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of the Sea Ox, which from an aperture of 40 feet high opens into a hall near 300 feet long, 120 broad, and 65 high\*. The stoves or warm caves of Lipari have suffered by neglect. The small isles of the gulph of Gaeta also present singular features. While Capri, the Caprea of antiquity, is calcareous, and seems merely an elongation of the adjoining promontory; the isle of Ischia, to the north, abounds with volcanic substances†. About 30 miles to the north of Ischia, and 50 from the Italian shore is Pendataria, famous for the exile of Julia the daughter of Augustus, now called Ventotiene, with the small isle San Stephano to the east. The three other Ponzian isles are about 20 miles to the N. W. of these two. Ponza, the largest, is in the middle; a narrow isle, extending from N. E. to S. W. in length about four miles. Palmarola is about four miles to the W. of Ponza, length from N. to S. about three miles, and very narrow. Zanonè is about four miles to the N. E. of Ponza, in breadth and length about one mile. In the Adriatic sea, not far from mount Gargano, are the small isles of Tremiti, the Diomedæ of antiquity. To the N. of Sicily and at a considerable distance from those of Lipari, is the small isle of Ustica, and at a still greater distance from the south Pantalaria. The isles of Malta and Gozo are of far more consequence. They are rocky and barren, not producing grain sufficient for half the consumption of a thin population; but may in the hands of the English prove a valuable acquisition. Malta is about 50 British miles in circumference, and is supposed to contain 60,000 inhabitants. The isle of Gozo is about half the extent, and is rather fertile, the population being computed at 3000.

## CHAPTER III.

## THE CENTRAL PART OF ITALY.

*Dominions of the Church.—Tuscany.—Lucca.—St. Marino.—Piombino, and the Isle of Elba.*

THIS portion comprehends the dominions of the church, and the grand duchy, now kingdom of Tuscany; with a few diminutive states, as the republics of Lucca and St. Marino, the principality of Piombino, and the small portion of territory around Orbitello belonging to the kingdom of Naples.

The territory formerly belonging to the pope reaches from near Pesaro to beyond Terracina. The secular power of the popes dates from the age of Charlemagne, and the forged collection of papal rescripts, published in the ninth century under the name of Isidorus, led to successive accumulations of dominion. The small territory granted in the eighth century, was increased by the acquisition of Benevento in the eleventh; after which there was a pause; and the popes themselves were constrained to reside at Avignon. In 1513 Bologna was acquired by Julius II. the marquise of Ancona followed in 1532: Ferrara 1598: Urbino 1626. By the treaty of Campo Formio in 1797, confirmed by that of Luneville in 1801, the provinces of Bologna, Ferrara, and Romagna, were ceded to the Cisalpine Republic, a state lately erected by and dependent on France. The pontiff is elected by the cardinals, a kind of chapter consisting nominally of priests and deacons, but in effect of opulent ecclesiastics, who are elevated to this dignity by their services to the church, by family connec-

\* Spallanzani, iii. 99.

† Ferber, Italy, 178.

tions, or by princely recommendation. The nature of the papal power is a bar to industry; and the popes rarely attempt to restore the country to its former fertility, though Pius VI. made ineffectual efforts to drain the Pontine marshes. The eastern provinces however are for the most part in a high state of cultivation. Almost the only exports from the papal states are a superior kind of alum, prepared at Tolfa near Civita Vecchia; from which place also puzzolana is exported, being yellowish brown ashes, containing particles of iron and manganese, whence it forms a strong cement.

Rome is supposed to contain 162,800 inhabitants: and Ancona 20,000. The revenue arising from the papal territory was computed at about 350,000*l.* sterling; but by exactions in foreign countries was raised to about 800,000*l.* Yet there was a large debt, bearing eight per cent. interest, a sure proof of the want of industry and prosperity. The papal power seems now to be supported only by the influence of Austria. The chief river, as already mentioned, is the Tiber, which running from N. to S. pervades the centre of Italy. The rivers flowing into the Tiber are the Chiano from the west; and the Nera from the east, which receives the Velino from the south: not far to the north of Rome the Teverone joins the Tiber, more noted for beautiful cascades near Tivoli than for the length of its course. The Velino displays a noble cascade of about 300 feet near Terni.

The grand duchy of Tuscany has long been celebrated for the arts; and Florence is regarded as the Athens of modern Italy. This principality is about 120 British miles in length by 90 in breadth; but on 7,040 square miles contains a population of about 1,250,000. Florence long continued a discordant republic, till the house of Medici, originally opulent merchants, obtained the supreme power in the beginning of the fifteenth century. That family, becoming extinct 1737, was followed by Francis duke of Lorraine, who afterwards succeeded the house of Austria in the imperial throne. Francis was followed by his son Peter Leopold, emperor in 1790; whose son Francis became grand duke, and succeeded his father as emperor of Germany in 1792; his brother Ferdinand being appointed grand duke of Tuscany. This duchy has been since united to the French empire. The revenue is computed at about half a million sterling, but the forces do not exceed 6 or 8000. Tuscany is one of the most beautiful and fertile regions of Italy, with a temperate and healthy climate. It abounds in corn and cattle, and produces excellent wines and fruit. Florence contains about 80,000 inhabitants, and Livorno (corrupted by our mariners to Leghorn) 45,000: the latter a celebrated port, has supplanted the maritime city of Pisa, now reduced to a population of about 20,000. The manufactures of silk and velvet were formerly celebrated, and still maintain reputation. The mountains in the Siennese, or southern part of Tuscany, contain valuable ores of antimony, copper which is wrought at Massa, and other metals, with slate and yellow marble. The serpentine of Impruneta, seven miles S. from Florence, presents beautiful varieties used in ornamental architecture\*. The Florentine marble is remarkable for picturesque representations of ruins, &c. caused by the infiltration of iron between the laminae. The Arno receives many small streams; and the Ombrone is a considerable river which pervades the Siennese.

The small republic of Lucca is supposed to contain 120,000 people, on 288 square miles; of which Lucca holds about 40,000. It assumed

\* Ferber, 250, &c.

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independence in 1370, the present aristocratic constitution was ratified in 1430; but in the recent revolutions of Italy this state adopted a constitution similar to the French. The Luccanese are the most industrious people of Italy, and no spot of ground is neglected, the hills being covered with vines, olives, chestnut, and mulberry trees, while the meadows near the coast nourish numerous cattle. Oil and silk are the chief exports of Lucca\*. The diminutive republic of St. Marino has been celebrated by many able writers. The inhabitants of the village and mountains are computed at 5000. It is surrounded by the dominions of the pope, and claims his protection. A hermit of the fifth century gave name and existence to this village, which grew up unmolested on the holy ground. In 1739, the miserable ambition of cardinal Alberoni, being disappointed in embroiling large states, was directed against this small republic, which he subjected to Rome, but the revenue being inconsiderable its ancient privileges were restored.

The principality of Piombino, consisting of a small portion of the Italian shore, and the opposite isle of Elba, were in the thirteenth century subject to the Pisans; and after several revolutions passed to the family of Apiano, as a detached principality, in 1399. In 1501 it was seized by Cæsar Borgia, but after the death of pope Alexander VI. returned to the house of Apiano. In the sixteenth century the isle of Elba was repeatedly ravaged by the Turks. The principality recently passed to the house of Buoncompagni, a Neapolitan family; but has recently been yielded to the French republic. Piombino is a small neglected town, the princes having generally resided at Rome. The isle of Elba, the ancient Ilva, is about nine miles in length, and three in breadth; and has been remarkable from early antiquity for its metallic productions, particularly beautiful ores of iron, often chrysellized, and mingled with native Prussian blue. The chief iron mine is that of Rio, in the western part of the isle; but as there is no water it is wrought near Piombino. This remarkable isle is also said to contain copper, lead, and even tin. Asbestos and amianthus are also among the productions of Elba. Ferber, himself a Swede, says that the iron ore of Elba is equal to that of Sweden. This isle produces excellent wine, some oil, and flax; but cannot boast of much fertility in grain†.

\*Another small commercial republic, though situated on the eastern shore of the Adriatic, is often considered as an Italian state. Ragusa has a population of about 15,000, on 352 square miles. This State being adjacent to the territory formerly belonging to the Venetians in Dalmatia, imitated the Venetian aristocracy, and was protected by the Turks on condition of paying tribute. The religion is the Catholic, and the speech the Slavonic, but most of the inhabitants speak Italian. It is an archbishoprick, with six suffragans, and its commerce is considerable, as it supplies the Turks with several kinds of fireworks and ammunition. Ragusa is an ancient city, being the Raufium of the Romans, and in the tenth century had become a metropolis of Dalmatia. In the thirteenth century it was conquered by the Venetians, and afterwards subject for a time to the crown of Hungary. The history of Ragusa may be traced in that of Venice; and its manufactures are of distinguished beauty. *L'Eu Dalmat.* 40, &c. Buching, iii. 359.

†Buching, xii. 125. Ferber's Italy, 204.

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## CHAPTER IV.

## THE NORTHERN PART OF ITALY.

*Piedmont.—Milan.—Mantua.—Parma and Placentia.—Modena.—Genoa.*

THIS largest division formerly comprized the extensive territories subject to Venice, and the king of Sardinia, with Milan and Mantua, appanages of the house of Austria, the principalities of Parma and Modena, and the long mountainous strip belonging to the Genoese. But France has seized on the greatest part of Piedmont and Savoy with the country of Nice, and the small principality of Monaco. This fertile region was by the French constituted a republic under the name of Cisalpine.

The most extensive province of this division is Piedmont, about 150 English miles in length by 100 of medial breadth. This principality was part of the ancient kingdom of Lombardy, and formed a part of the gradual acquisitions of the counts, afterwards dukes of Savoy, and latterly kings of Sardinia. While the revenue of Sardinia was estimated at 1,085,000*l.*, Piedmont contributed 953,750*l.*, Savoy 87,500*l.*, and Sardinia only 43,750*l.* This delightful province enjoys a mild and pure air, and distinguished fertility of soil, the plains producing wheat, maize, rice, with some olives and wine, and the pasturages abound with cattle. The vicinity of the Po however is subject to fogs in the winter, and the cold blasts from the Alps occasionally cut off the vines. Around Turin and through a great part of the province, artificial irrigation, or the watering of meadows, is practised with great assiduity and success. The surrounding Alps are rich in minerals\*. The Alpine chain from St. Gothard to Mount Cenis, is of prodigious height, particularly Mount Rosa, a northern boundary of Piedmont, and supposed to be the ancient Mons Sylvius; but from Mount Cenis it becomes gradually lower, till the Appennines branch out between Roja and Livenza, inclosing this province on the south. Thus numerous streams descend on all hands to fertilize the plains, and the river Orco forms at Ceresoli a vertical cascade, computed at 400 fathoms or 2,400 feet. The copper mines in the duchy of Aosta are numerous: and in some places this metal is accompanied with antimony, arsenic, and zinc. In the superior regions near Macugnaga there are mines of gold, found in marcasite and quartz: in the vale of Sesia are the gold mines of St. Maria and Cavavecchia, also containing silver. Gold is likewise found in the mountains of Challand near the vale of Aosta; and the torrent Evenson rolls down pebbles of quartz, veined with that precious metal. Not far to the east of Mont Blanc, a rich vein of cobalt has been recently discovered; and plumbago or black lead has been observed near the baths of Binay. But it would be infinite to detail the mineralogic opulence of Piedmont, which spreading to the south of the highest Alps, almost rivals the southern side of the Carpathians in Hungary.

The chief city of Piedmont is Turin, supposed to contain more than 80,000 inhabitants, with an university founded in 1405 by Amadeo duke of Savoy, this city having been subject to the family since A.D. 1097. Vercelli is said to contain 20,000; and Alexandria 12,000; a little to the

\* See Memoire de M. Robilant sur la Mineralogie de Piemont. Journ. des Mines, No. 50.

\* The infant Young (France) has been thence whole count proprietors of inhabitants number of cious exhalations formerly and sovereign. † France,



east of the latter is Marengo, noted for a victory of Bonaparte over the Austrians. The king of Sardinia used to maintain an army of about 40,000. The exports consist of silk, which was chiefly manufactured at Lyons, some hemp, and large flocks of cattle \*.

Next in position and now in consequence is the fertile duchy of Milan, said to contain, on 2,432 square miles, a population of 1,116,850. The city of Milan was founded by the Gauls about 584 years before the Christian æra; and the inhabitants are computed at about 120,000. After the fall of the kingdom of Lombardy, it became subject to the emperors of the west; but impatient of the yoke, it was severely punished by the emperor Frederic I. 1162; who taking it after a siege of seven months destroyed the gates, ramparts, and edifices, except a few churches, and sowed salt on the ruins. Recovering slowly amid the contests between the emperors and the pope, it however could not assert the form of a republic, but became subject to the archbishop, and to the Torriani. Napoleon Torre opposing Otto Visconti, archbishop of Milan, was defeated in 1277, and the prelate was proclaimed temporal lord of Milan. He was succeeded by his nephew; and the family of Visconti long possessed this opulent principality. This family expired in 1494; and was followed by Sforza, and by the French kings. In 1535, Charles V. seized Milan as a fief of the empire, and gave it to his son Philip; whose successors, kings of Spain, held the Milanese till 1706, when it became an appanage of Austria; but a considerable part had passed to the house of Sardinia. The revenues of this duchy are computed at about 300,000*l.* At Pavia is an university of great repute, the professors having much distinguished themselves in natural history. It is regarded as the first in Italy. There are manufactures of wool and silk, but the latter is inferior to that of Piedmont: there are also numerous workmen in gold, silver, embroidery, steel, and in crystal, agate, aventurine, and other stones, so that the country swarms with artisans. Mr. Young † represents the soil as being chiefly strong loam or loamy sand; and the most remarkable circumstance in the climate is the mildness and warmth of the northern mountainous tracts, and the cold felt in the plains. Orange and lemon trees flourish in the open air on the western side of the lake of Como, though bounded by the high Alps, which to the north are covered with eternal snow; while in the plain of Lombardy, even to the Apennines, these trees require shelter. The Boromean isles also in the Lago Maggiore, are covered with these delicate trees. In Parma severe frosts are felt which are not unknown in Tuscany, and even at Rome. The lands in the Milanese, as in Piedmont, are mostly inclosed; and the farmers were metayers upon the old French plan, the landlord paying the taxes and repairs, the tenant providing cattle, implements, and seed; and the produce being divided between them. The irrigation of the Milanese Mr. Young represents as a stupendous effort of industry; and the canals for this purpose

\* The island of Sardinia used to be considered as an appendage of Piedmont. Mr. Young (France, ii. 257.) informs us, seemingly from good authority, that this isle has been shamefully neglected by the government; for, exclusive of the mountains, the whole country may be regarded as waste, and only cultivated in a few spots. The chief proprietors are absentees, and the peasantry crushed by rapacious stewards; the number of inhabitants about 450,000. The frequent wastes abound with wild ducks; but the number of cattle and sheep is deplorably small, and the morasses produce most pernicious exhalations. This island, being now however the sole remnant of the possessions formerly annexed to the Sardinian crown, will no doubt be benefited by the presence of its sovereign.

† France, ii. 140.

are mentioned as early as the eleventh century; some of them being more than 30 miles long, and near 50 feet wide. The price of land is near 100l. the acre, and yields about three per cent. interest. The cattle, dairies, and cheese are excellent; but the sheep few and bad. Though the Milanese border, towards the north, on the higher Alps, and might thence be supposed to rival Piedmont, yet the mineralogy has been little explored. Yet there are some mines of copper and lead above the lake of Como.

The Venetian territory has been recently withdrawn from the house of Austria, and annexed to the new kingdom of Italy. A description of the well-known city of Venice would be superfluous: nor is it necessary to enlarge on the well-known antiquities of Verona, and the university of Padua.

The ancient and remarkable city of Venice was founded in the fifth century by the Veneti of the opposite shore, who fled from the incursions of the barbarians. At first each isle was governed by a tribune, till the year 697, when the first doge was elected. In the ninth and tenth centuries the government of doges became nearly hereditary, but in the eleventh the election again became open. Towards the close of the twelfth century the democratic form was succeeded by an election, and administration severely aristocratic, and well known by its singularity and stability. The Venetians having gradually extended their power along the Adriatic, in the year 1204, became masters of several Grecian provinces and islands; and after their contests with the Pisans and Genoese, became the first commercial and maritime power in Europe, till the end of the fifteenth century, when the discovery of the Cape of Good Hope transferred the oriental traffic to the Portuguese, who were succeeded in maritime exertion by the Spaniards and Dutch; and, lastly, by the English, whose naval transcendancy exceeds all ancient or modern example. The authority of Venice declined with its commerce; and the republic may be said to have expired of mere old age.

The commerce of Venice had sunk in great decline. The remaining trade of that city chiefly consisted in scarlet cloth, and in stuffs interwoven with gold and silver, sold to much advantage in the Levant; and the Venetian mirrors retain their ancient reputation; but the city did not exist so much by immediate commerce, as by the vast wealth acquired during a long period of prosperity.

The Venetian territory presents many considerable hills, branching from the Swiss and Tyrolean Alps. A minute enumeration would be superfluous; but Mount Baldo, on the east of the lake Garda, must not be omitted, having become remarkable among botanists by a variety of curious plants. Mount Bolca, fifty miles N.W. of Venice, is noted for fossil fish in argillaceous schistus. The Euganean hills near Padua have been supposed to be volcanic.

The Adige springs from the Rhaetian Alps, and being joined by the Eisac on the E. pervades the S. of Tyrol and Trent, then flows by Verona towards the Adriatic, which it joins only about ten miles to the N. of the Po. The Tagliamento, Piave, and Brenta, all spring from the Tyrolean Alps.

The small duchy of Mantua was held by the house of Gonzaga, from the fourteenth century; but the last of the family being put to the ban of the empire, Mantua has been subject to Austria since the year 1707, and was ruled by the governor-general of the Milanese. The capital stands on a lake formed by the Mincio, and was formerly supposed to contain 50,000 inhabitants, now reduced to about 12,000; the position

and fortifications render it a place of great strength. The Venetian territory to the west of the Adige consisted chiefly of the Brescian and Bergamese, the latter being mountainous; but the Brescian is fertile in wine, oil, and maize, with excellent pasturages, and some mines of copper and iron.

The duchy of Modena is a remnant of the power of the celebrated family of Este, who also possessed the adjacent country of Ferrara, seized by the pope in 1598. It contains about 320,000 souls, and the city of Modena 30,000; the revenue was 140,000*l*. The soil resembles that of the duchy of Parma. The breed of sheep is neglected. It is remarkable that in digging wells near Modena, at a certain depth, a particular stratum is found, which being passed, the water gushes up as from a subterranean lake or river. About ten miles to the south of the capital there is an aperture in the earth called La Salza, whence, particularly in the spring and autumn, ascend smoke, flame, ashes, and stones, with a strong smell of sulphur. Carrara in the S. of this duchy affords the celebrated marble used in statuary.

The territories of Parma and Placentia have been conjoined for many ages. They were contested by the Lombards, and by the exarchs of Ravenna; and after many revolutions subjected themselves to the papal see, whence they were transferred by Paul III. in favour of his son Pietro Farnese, in 1545. This family being extinct in 1731, after some contests, the duchies of Parma and Placentia were assigned to the Bourbon family of Spain, and have lately been occupied by the French. The population is computed at 300,000; revenue 175,000*l*. Parma is a considerable city with some manufactures, and an academy of painting; the printing press established by Bodoni was distinguished for beautiful productions. Both Parma and Placentia have universities. The soil is a rich sandy or gravelly loam, with fine pastures; and the Parmesan cheese now made at Lodi in the Milanese has been celebrated for many centuries \*. The farms are small and agriculture ill conducted, irrigation being here little practised. The sheep are bad and the wool like hair. The improvement of the country was much neglected by the Bourbon family.

The imperial fiefs, and smaller states in this part of Italy, would little merit description, especially in the present uncertainty with regard to their final destination. This account shall therefore close with the republic of Genoa, consisting of a long mountainous tract, formerly noted for the acuteness and treachery of the Ligurians its inhabitants. The city of Genoa was destroyed by Mago the Carthaginian general, and rebuilt by the Romans. It afterwards became subject to the Lombards, and the emperors of Germany; but in 806 had seized Corsica, and in the eleventh and twelfth centuries was distinguished in the crusades, the Genoese rendering themselves masters of the Black Sea with establishments in the Crimea, and even in the suburb of Pera at Constantinople, where they remained till the Turks took that city †. Genoa strongly contested with Venice the dominion of the sea; and the war was not terminated till 1381. In 1471 the Genoese were expelled from the Crimea; but their maritime power continued respectable. The form of government was more democratic than that of Venice, so that the latter had a more firm executive effect. Exhausted by the Venetian war, Genoa offered voluntary subjection to France and Milan: but in 1528 Andrew Doria delivered his country and introduced a more stable and aristocratic government,

\* Young's France, ii. 149. There are iron foundries near the Apennines. Keyser, iv. 110.

† See Gibbon, xi. 390.

which

which continued till 1798, when the French form was chosen, and the new style assumed of the Ligurian republic, confirmed by the recent treaty of February 1801. In 1730 Corsica revolted from Genoa, and has not since been restored. In 1745 the Genoese declared war against the king of Sardinia, but suffered greatly in the contest. The papal power is here little venerated, the people being immersed in business, and receiving monied heretics with open arms. The population of the territory is computed at 400,000; of the city at 80,000. The troops, including the country militia, may amount to 30,000; but the powerful fleets have sunk to a few gallees. The air is pure and salubrious, and there are excellent fruits and vegetables; but the grain is not sufficient for the consumption. The manufactures are chiefly of silk and velvet. The Apennines, which inclose this region, are in some places covered with forests, but in others are barren rocks, while in a few they afford delicious pasturage. They supply excellent marble for the proud palaces of Genoa; while Polzevera in the Bocchetta yields the beautiful stone so called, being serpentine of various colours veined with marble. In 1778 a magnificent road was made from the Bocchetta or mountains to the north of Genoa, through the Polzevera, which for the space of three years employed from 5 to 800 men, by the patriotic munificence of one noble family, the Cambiasi\*.

**H**AVING thus given a description, sufficiently ample, of Europe the most interesting portion of the globe, that of the remaining three quarters shall be more restricted, as the topics are generally less alluring to the European reader, and in many instances the materials are imperfect. Of some parts of America, and the vast central regions of Africa, little is known; but Asia presents a more extensive theme, and teems with scenes of important events in ancient and modern history.

## ASIA.

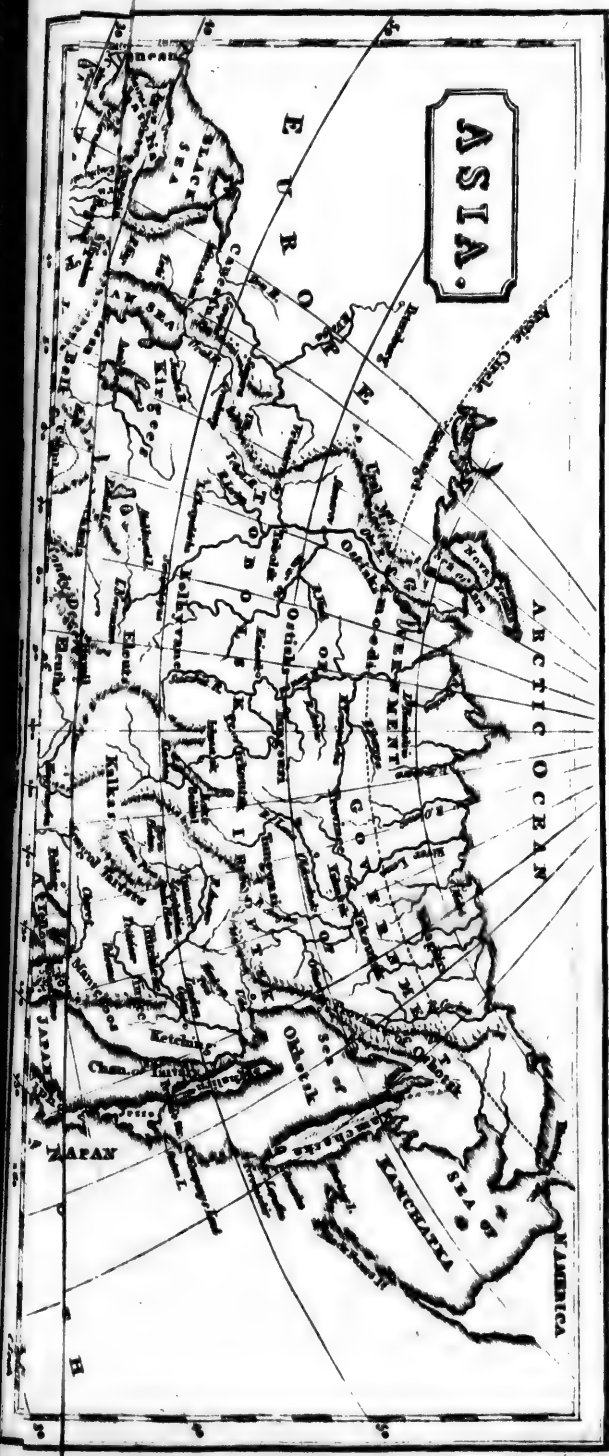
**EXTENT.]** **T**HIS great division of the earth extends in length from the Hellespont to what is called the East Cape; that is from about the 26° of longitude, east from London into the other hemisphere to near 190 degrees of east longitude, or 170° west from London; being no less than 164°, or (taking the degree at a medial latitude) more than 6,500 geographical miles. From the southern cape of Malacca to the cape of Cevero Vostochnoi, which braves the ice of the Arctic ocean, the breadth extends from about 2° of northern latitude to about 77°, or nearly 4,500 geographical miles. If, for the sake of a rude and merely comparative calculation, one sixth part be added for the difference between the statute and geographical mile, the length of Asia in British miles would be about 7,583, and the breadth 5,250.

Of the vast extent of Asia the ancients entertained most indistinct ideas, and in fact the discovery of this great division of the world may be said to have commenced with the travels of Marco Polo, the Venetian, in the end of the thirteenth century: and it was not completed, with regard

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# LINNÆAN T

## Ordo.

- I. Assyria
- II. Scythia
- III. Sarmata
- IV. { Seres.  
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- V. Sinæ.

## Barbaric Nations

- VI. Samoied
- VII. Yakuts
- VIII. Koriacs.
- IX. Kamcha

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William Jones, Ind  
Id. 187, 188. 206.

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to the eastern extremities, till the recent travels through Siberia and the other Asiatic dominions of Russia, and the voyages of Bering, Cook, and La Perouse. It is now well known that Asia is limited, on the east, by a strait which divides it from America, and which, in honour of the discoverer, is called Bering's Strait. The northern and southern boundaries are the Arctic and Indian oceans, in which last many large islands, particularly that of New Holland, now more classically and properly styled by some *Australasia*, affords a vast additional extent to this quarter of the globe. The western limits of Asia have already been discussed in the account of the eastern limits of Europe.

ORIGINAL POPULATION.] The population of Asia is by all authors allowed to be wholly primitive and original; if we except that of the Techuks or Tchuktchi, who, by the Russian travellers and Mr. Tooke, are supposed to have passed from the opposite coast of America. A few colonies have migrated from Russia to the northern parts, as far as the sea of Kamchatka; and there are well known European settlements in Hindostan and the isles to the S.E.; but the first serious attempt to colonize what is esteemed a part of Asia was the recent settlement at Port Jackson. With these and other trifling exceptions Asia presents a prodigious original population, as may be judged from the following table, which will be found more clear than any prolix discussion on the subject,

LINNÆAN TABLE OF THE NATIONS AND LANGUAGES IN ASIA.

| Ordo.                 | Genus.                                              | Species.                   |
|-----------------------|-----------------------------------------------------|----------------------------|
| I. Assyrians.         | { Assyrians.<br>Arabians.<br>Egyptians.             | Chaldee.<br>Hebrew, &c.    |
| II. Scythians.        | { Persians.<br>Scythians, intra et extra Imaum, &c. | Armenians*.                |
| III. Sarmata.         | { Medes.<br>Parthians,                              | Georgians.<br>Circassians. |
| IV. { Seres.<br>Indi, | Hindoos,                                            | Northern and Southern, &c. |
| V. Sinæ.              | { Chinese.<br>Japanese.                             | †                          |

*Barbaric Nations from north to south, and according to the degrees of barbarism.*

|                 |                       |                                                    |
|-----------------|-----------------------|----------------------------------------------------|
| VI. Samoieda.   | Ostiaks, Yurals, &c.  |                                                    |
| VII. Yakuts     | Yukagirs,             | (Expelled Tatars, according to Tooke and Lesséps.) |
| VIII. Koriaks.  | Techuks or Tchuktchi. | †                                                  |
| IX. Kamchadals. | Kurillians.           | ‡                                                  |

\* The Parth and Zend are cognate with the Gothic, Greek, Latin, according to Sir William Jones, *Indian Dissert.* vol. I. p. 206. The Pehlavi is Assyrian or Chaldean. Id. 187, 188, 206.

† These have a Tartaric form and face: they are probably highly civilized Tatars, Mongols or Mandchurians.

‡ From the opposite coast of America. Tooke's Russia. The Yukagirs are a tribe of the Yakuts (around Yakutsk), and both are expelled Tatars. Tooke's View, II. 80. Lesséps, II. 312.

§ These resemble the Japanese.

Ordo.

|      | <i>Ordo.</i>              | <i>Genus.</i>                             | <i>Species.</i>                                           |
|------|---------------------------|-------------------------------------------|-----------------------------------------------------------|
| X.   | Mandshurs or<br>Tunguses. | Lamuts.                                   | (Ruling people in<br>China.)                              |
| XI.  | Monguls.                  | Kalmucs.                                  | Soongars.<br>Torguts.<br>Burats, &c.                      |
| XII. | Tatars or<br>Huns*.       | Turks,<br>Khafars,<br>Uzes.<br>Siberians. | Nogays.<br>Bashkirs.<br>Kirguses or Kaizacks.<br>Teleuts. |

Besides these numerous original nations, the Malays and Asiatic islanders constitute another large and distinct class of mankind, with a peculiar speech, in the south of the extensive continent of Asia.

PROGRESSIVE GEOGRAPHY.] The progressive geography of this quarter of the globe might afford an important and interesting subject of discussion, if treated at due length, as embracing the various discoveries which, at long intervals of time, successively disclosed its vast extent. The most authentic information concerning the knowledge of the ancients is to be found in the geography of Ptolemy; but modern commentators differ in the elucidation of his text: however it appears probable that not above one quarter of Asia was known to the ancients, and this knowledge was little increased till Marco Polo, whose travels became well known in Europe in the beginning of the fourteenth century, established a memorable epoch in geography, by passing to China, and disclosing the extent of that country, the islands of Japan, and a faint intelligence of other regions, illustrated and con-

\* After the destruction of Attila's swarms, and the effects of unfortunate inroads, the Huns became subject to the Monguls, who, under Zingis or Genghiz Khan, Timur, &c. constituted the supreme nation in Asia.

The great share of population which Europe has received from Asia will appear from the following little table:

## PRIMEVAL INHABITANTS.

| <i>Ordo.</i>                    | <i>Genus.</i>                               | <i>Species.</i>                                                                        |
|---------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------|
| I. Celts.                       | { Irish.<br>Welsh.<br>Armorican.            | Erse, Manks.<br>Cornish.                                                               |
| II. Fins (chief god<br>Yummal.) | { Finlanders.<br>Esthonians.<br>Hungarians. | Permians or Biarmians.<br>Livonians.<br>Votians and Chermiffes.<br>Voguls and Ostiaks. |

## COLONIES FROM ASIA.

|                                    |                                                                     |                                  |
|------------------------------------|---------------------------------------------------------------------|----------------------------------|
| III. Scythians or Goths<br>(Odin). | { Icelanders, Norwegians.<br>Swedes, Danes.<br>Germans.<br>English. | Swiss, Frise.<br>Flemish, Dutch. |
| IV. Sarmats or Slavons<br>(Perun). | { Poles.<br>Russians.<br>Kossacs.                                   | Heruli.<br>Vendi.<br>Lettes.     |

The inhabitants of France, Italy, and Spain are also of Asiatic origin; and speak corrupted Roman, which, like the Greek, is a polished dialect of the Gothic, according to Sir William Jones and other able antiquaries. The Heruli, Wends, and Lettes, used mixed and imperfect dialects of the Slavonic. *Critical Review*, vol. xviii. p. 129.

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firmed by recent accounts. The wide conquests of the famous Zingis, in the beginning of the thirteenth century, first opened the discovery of the distant parts of Asia, the Monguls, whose sovereign he was, being situated to the east of the Huns, who had before diffused terror over Europe. The first seat of the Monguls was in the mountains which gave source to the river Onon; and at a short distance to the S.W. was Kara-kum, the first capital of the Mongul empire. The victories of Zingis extended from Cathay, or the northern part of China, to the river Indus; and his successors extended them over Russia, while their inroads reached Hungary and Germany. This widely diffused power of the Monguls naturally excited an attention and curiosity, never stimulated by a number of petty barbaric tribes; and at the same time facilitated the progress of the traveller, who, as in Africa at present, had been formerly impeded by the enmities of diminutive potentates. By force of arms the Monguls also first opened the obscure recesses of Siberia. Sheibani Khan, A.D. 1242, led a horde of 15,000 families into these northern regions, and his descendants reigned at Tobolskoy above three centuries, till the Russian conquest\*. Two European travellers, Carpini and Rubruquis, were commissioned to inspect the power and resources of the new empire of the Monguls; the latter found at Kara-kum a Parisian goldsmith, employed in the service of the khan; and by Carpini's relation it appears, that, from their brethren in Siberia, the Monguls had received some intelligence concerning the Samoieds.

Thus the discovery of Asia, which had been nearly dormant since the time of Ptolemy, began to revive in the thirteenth century. Yet after the publication of Marco Polo's travels little was done for two centuries; and the authenticity of his accounts even began to be questioned. One man, indeed, of great mental powers, was impressed with their veracity, and in consequence accomplished a memorable enterprize. This was Christoval Colon, or, as we call him, Christopher Columbus, who was led by the relation of Polo to conceive that, as Asia extended so far to the east, its shores might be reached by a short navigation from the western extremity of Europe. In this erroneous idea, when that great man discovered the islands now called the West Indies, he thought that he had arrived at the Zipango of Polo, or Japan: and thus the name of India was absurdly bestowed on those new regions.

After the discovery of America and the Cape of Good Hope, the maritime parts and islands of Asia were successively disclosed. Yet the recent voyages of the Russian navigators, of our immortal Cook, and of the unfortunate La Perouse, evince that much remained to be done; and concerning the interior of Siberia scarcely any solid information arose, till Peter the Great, after the battle of Pultowa, sent many Swedish prisoners into that region and Strahlenberg, one of the officers, published an account of Siberia. This knowledge was greatly improved and increased by the well known genius of Pallas, and others. Yet our knowledge of Asia is far from being perfect, especially in respect to Daouria, and other regions near the confines between the Russian and Chinese empires; not to mention central Asia in general, Tibbet or Tibet, and some more southern regions; nor had even the geography of Hindoostan been treated with tolerable accuracy, till Major Rennell published his excellent map and memoir. It is almost unnecessary to remind the reader of the recent discoveries to the south of Asia, in which the interior and southern coast

\* Gibbon, xl. 494.

of New Holland remain to be explored; with other defects of smaller consequence. But while many improvements are wanted in the geography of several European countries, it is no wonder there should be great deficiencies in that of the other quarters of the globe.

The importance of the subject will excuse these remarks on the progressive geography of Asia, than which no part of the science can be more justly interesting, from the vast extent of that portion of the globe; from the great variety of nations, civilised and barbarous, by whom it is peopled; and from its intimate connection with the destinies of Europe, which it has frequently overawed, while the savage tribes of Africa and America can never become formidable to European arts or happiness.

**RELIGIONS.]** The religions of Asia are various, and will be illustrated in the accounts of the several countries. The climate also admits of every variety, from the equator to the Arctic sea.

**SEAS.]** Though Asia cannot vie with Europe in the advantages of inland seas, yet, in addition to a share of the Mediterranean, it possesses the Red Sea, the Arabian Sea, and gulph of Persia; the bays of Bengal and Nankin; and other gulphs, which diversify the coasts much more than those of Africa or America, and have doubtless contributed greatly to the early civilisation of this celebrated division of the earth.

The Red Sea, or the Arabian gulph of antiquity, constitutes the grand natural division between Asia and Africa; but its advantages have chiefly been felt by the latter, which is entirely destitute of other inland seas; Egypt and Abyssinia, two of the most civilized countries in that division, having derived great benefits from this celebrated gulph, which from the straits of Babelmandel to Suez extends about  $21^{\circ}$ , or 1470 British miles; terminating not in two equal branches, as delineated in old maps, but in an extensive western branch, while the eastern ascends little beyond the parallel of Mount Sinai.

The Persian gulph is another noted inland sea, about half the length of the former, being the grand receptacle of those celebrated rivers the Euphrates and the Tigris.

The other gulphs do not afford such strong features of what are properly termed inland seas; if the Euxine be excepted, which has already been briefly described in the general survey of Europe. But the vast extent of Asia contains seas totally detached, and of a different description from any that occur in Europe, or other quarters of the globe. Such is the Caspian sea, extending about  $10^{\circ}$ , or 700 miles in length, and from 100 to 200 in breadth. Strabo and Pliny idly supposed this sea to be a gulph, extending from the northern ocean; while Herodotus, many centuries before, had expressed more just ideas. Yet the Caspian seems at one period to have spread farther to the north, where the deserts are still sandy and saline, and present the same shells that are found in the Caspian: but the chain of mountains which branches from the west of the Ural to the north of Orenburg, and reaches to the Volga, must, in all ages, have restricted the northern bounds of the Caspian. To the east, this remarkable sea, in the opinion of most geographers, extended, at no very remote period, to the lake of Aral; the deserts on that side presenting the same features as those to the north, though there be now an elevated level between the sea of Aral and the Caspian, occasioned perhaps by the quantity of sand rolled down by the Gihon, the Sirr, and other rivers, which now flow into the sea of Aral. The northern shores are low and swampy, often overgrown with reeds; but in many other parts the coasts are precipitous, with such deep water that a line of 450 fathom will not

reach the bottom as the Jemba, the Kuma, Terek, south are of small to receive the Terek the Caspian, at the joined the sea of porpoises and seal dent sturgeon, wh and other articles of Baku: that of commodious, tho

About 100 miles which is about 200 ing the river ancient and the river Gihon ble course, flowing sea of Aral, being plored; but it is fa lakes in the vicinity

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reach the bottom. This sea is the receptacle of many important rivers, as the Jemba, the Ural or Jaik, and the Volga from the north; the Kuma, Terek, Kur, and Kizil Ozen from the west; those from the south are of small moment; but from the east the Caspian is supposed still to receive the Tedjen; and the Gihon, or Oxus of antiquity, flowed into the Caspian, at least by one or two branches, till it bent northward, and joined the sea of Aral. Besides herrings, salmon, and other fish, with porpoises and seals, this sea produces sterlet, and great numbers of excellent sturgeon, which last in particular ascend the Volga, and supply kaviar and other articles of exportation. The best haven in the Caspian is that of Baku: that of Derbent is rocky; and that of Enfil, or Sinfil, not commodious, though one of the chief ports of trade.

About 100 miles to the east of the Caspian is the sea or lake of Aral, which is about 200 miles in length, and about 70 miles in breadth, receiving the river anciently called Iaxartes, more recently the Sirr or Sihon, and the river Gihon, the Oxus of antiquity; both streams of considerable course, flowing from the mountains of Belur Tag, or Imaus. The sea of Aral, being surrounded with sandy deserts, has been little explored; but it is salt, like the Caspian, and there are many small saline lakes in the vicinity.

Another remarkable detached sea is that of Baikal in Siberia, or Asiatic Russia, extending from about the fifty-first to the fifty-fifth degree of north latitude, being about 350 British miles in length, but its greatest breadth not above 35. The water is fresh and transparent, yet of a green sea tinge, commonly frozen in the latter end of December, and clear of ice in May. The Baikal is, at particular periods, subject to violent and unaccountable storms, whence, as terror is the parent of superstition, probably springs the Russian name of Svetoie More, or the Holy Sea\*. There are many seals, and abundance of fish, particularly a kind of heron called omuli. Several islands appear, and that of Olchon has sulphureous springs. The chief river flowing into the Baikal is the Selenga, from the south; while from the north it emits the Angara, which joins the prodigious stream of the Yenisei.

Of the other Asiatic seas a minute account would be superfluous; but a few observations may be offered on the remarkable strait which divides Asia from America. This strait, which was discovered by Bering, afterwards by Cook, is about 13 leagues, or near 40 miles in breadth. Bering, a Dane, was employed by Peter the Great in 1728, and actually discovered this strait, probably in the usual fogs of the climate, without discovering land to the east; but our great navigator gave the name of the Danish adventurer to these straits, when he afterwards explored them with the usual accuracy†. On the Asiatic shore is the East Cape, and on the American that called Prince of Wales. The depth of the strait is from 10 to 30 fathoms. To the north of these straits the Asiatic shore tends gently to the westward; while the American proceeds nearly in a northern direction, till, at the distance of about four or five degrees, the continents are joined by solid and impenetrable bonds of ice.

In the Asiatic seas there are numerous shoals, or sand banks, but few of them have been described as conducive to human industry.

**RIVERS.]** The chief rivers of Asia are the Kian Ku and Hoan Ho, (so more briefly called Kian and Hoan,) the Lena, the Yenisei, and the Ob, streams which rival in the length of their course any others on the globe. The Volga has been named among the rivers of Europe, to

\* Tooke's View, i. 141.

† Pennant, Arc. Zool. clxxxix.

which



## TURKEY IN ASIA.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Extent and Boundaries. — Divisions. — Original Population. — Progressive Geography. — Historical Epochs and Antiquities.*

**EXTENT.]** THIS region extends from the shores of the Egean sea, or Archipelago, to the confines of Persia; a space of about 1,050 British miles. The boundaries towards Persia are rather ideal than natural, though somewhat marked by the mountains of Ararat and Elwend. In the north the Turkish territories are now divided from the Russian by the river Cuban, and the chain of Caucasus; in the south they extend to the junction of the Tigris and the Euphrates, which last river, for a considerable space, divides the Turkish possessions from those of the Arabs. From the river Cuban to the junction of the Tigris and Euphrates, may be about 1,100 British miles.

**DIVISIONS.]** This extensive territory, which in itself would constitute an empire, could it resume its pristine population, is divided into nine or ten provinces. Natolia, the most westerly, is followed by Karaman in the south, and Roum in the north-east. To the north of Armenia are Guria, or Gurjel, Mingrelia, and the Abkhas of Caucasus, the ancient Circassians. Armenia is also styled Turcomania; to the south of which are Kurdistān, and Irak Arabi, a part of ancient Persia around the celebrated capital, Bagdad. The ancient Mesopotamia, between the Tigris and the Euphrates, now partly corresponds with the province of Algezira: and the classical name of Syria or Soria is still allotted to the celebrated countries along the eastern extremities of the Mediterranean. Some of these provinces are of comparatively recent acquisition; Bagdad having belonged to Persia till 1638; while on the contrary Erivan, reconquered by the Persians in 1635, has remained free from the Turkish domination.

These provinces are subdivided into governments, arbitrarily administered by pashas.

**ORIGINAL POPULATION.]** The original population of these regions consisted chiefly of Scythic nations, mingled with a few Assyrians from the south. At present the ruling language is the Turkish, next to which may be placed the modern Greek; but the Arabic, Syrian, Persian, and Armenian, with various dialects used by the tribes on the Black Sea, indicate the diversity of population.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography may be traced from the remotest antiquity to modern times; but Turkish barbarism has prevented the precision of recent knowledge from adding complete illustrations to the geography of this part of Asia.

**HISTORICAL EPOCHS.]** The chief epochs of Turkish history have already been mentioned, in describing their European possessions. Armenia and Georgia were subdued by the Turks in the eleventh century, and the whole of Asia Minor rapidly followed. Their kingdom of Roum extended from the Euphrates to Constantinople, and from the Black Sea to the confines of Syria. Successive warlike princes acquired additional territory from the Mamalukes of Egypt and the Persians. Syria, formerly

merly an appanage of Egypt, was conquered by Selim II. in 1516; Tauris and Diarbekr, which last had formerly belonged to Persia, were subdued by the same monarch; and in 1589 Abbas, the great sovereign of Persia, was obliged to yield three provinces to the Ottomans; and Bagdad, as already mentioned, with the surrounding province of Irak Arabi, became subjects to the Turks in 1658. The present limits seem to have been fixed by the treaty between the Porte and Persia, 1736, since which period the Turks have been chiefly occupied in their own defence against the Russians; but their ascendancy over Persia had been such, that in 1727 they had acquired the territory from Erivan to Tauris, or Tebriz, and thence to Hamadan, a boundary which seems indeed more precisely marked by nature than the present.

**ANTIQUITIES.]** The antiquities of Asiatic Turkey, once the chosen seat of the arts, are numerous and important, but have been so repeatedly described as to have become trivial themes, even to the general reader. The most splendid ruins are those of Palmyra, or Tadmor, in the desert, about 150 miles to the S. E. of Aleppo, at the northern extremity of the sandy wastes of Arabia.

Balbec, the ancient Heliopolis, is about 50 miles to the N. W. of Damascus, the most remarkable ruin being that of a temple, supposed to have been dedicated to the sun.

Recent investigation has disclosed another remarkable scene of antiquities, in the site and celebrated plain of Troy. The Simois is now demonstrated to be a considerable stream, which runs into the Hellespont, nearly opposite to the new castles constructed under the order of Tott. The Scamander which formerly flowed into the western side of the Simois, having been diverted by the Romans into a different channel, this unobserved circumstance not a little baffled antiquarian research. The tombs of remote antiquity having been constructed like the large barrows of our ancestors, in the lasting form of small hills, they withstood the assaults of time, or avarice; and our travellers indicate, with some plausibility, that of Hector, behind the site of Troy; those of Achilles and Patroclus on the shore; and a few other of the Homeric heroes\*.

## CHAPTER II.

### POPULATION, &c.

**M**ANY of the topics assigned to this chapter have been already treated in the description of European Turkey. The Turkish empire in Asia is estimated at 470,400 square miles; and the population at ten millions; which, allowing eight for the European part, will render the total 18,000,000. Geographers have, contrary to the united voice of travellers, considered Egypt as a Turkish province; while in fact it was only occasionally tributary, and was subject to the military aristocracy of the Boys. Some of the maritime Mahometan powers have likewise assisted the Porte with ships in time of war; but cannot with any justice be regarded as subject to the Ottoman sceptre. The population of these African states is therefore foreign to the present consideration.

\* See Morritt's *Vindication of Homer*, &c. 1796, 4to; Dallaway's *Constantinople*, and Dalzell's translation of Chevalier's *Memoir*.

*Manners and Customs—Cities and Manufactures and*

MANNERS AND CUSTOMS

empire, is that half while the other half This laxity of government has proved a great disadvantage to these regions. The Turcomans and Kurds maintained on the frontiers of this classical territory

**CITIES AND TOWNS** already described. Aleppo, supposed to be constructed with fortifications, with the white minarets appearance\*. The increase, but the adjacent the Syrian and Arabi flourishing condition, and Basflora, charged from various European respective nations.

Damascus is supposed to be celebrated for the manner of its construction by a method not so as to bend even to divide the firmest mail. of the fifteenth century Persia. The manufacture of soap. From the Mediterranean and the caravans of Bagdad also increases, by the great which last always presents a decline. The Pashalik of the office of Pacha has, in the measure hereditary, with any appeal.

Smyrna may be regarded as containing about 120,000 souls. and chief mart of the Levant under the Great, eminent foundation, and not the of the Turks and the Greeks, with vast slaughter by Tim

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## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Education.—Universities.—Cities and Towns.—Edifices.—Roads.—Inland Navigation.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** IN general the most striking feature of manners and customs, in the Turkish empire, is that half the people may be considered as somewhat civilized, while the other half are pastoral wanderers, ranging over extensive wastes. This laxity of government renders travelling in Asia Minor very unsafe, and has proved a great impediment to any exact geographical knowledge of these regions. Under a prudent government the wandering hordes of Turcomans and Kurds would be expelled; and regular troops and garrisons maintained on the frontiers; when industry and the arts might again visit this classical territory.

**CITIES AND TOWNS.]** The capital of the Turkish empire has been already described. Next in dignity and importance is the city of Halep, or Aleppo, supposed to contain about 250,000 inhabitants. This city is constructed with some elegance, and the tall cypress trees contrasted with the white minarets of numerous mosques, give it a most picturesque appearance\*. The buildings and population seem to have been on the increase, but the adjacent villages are deserted. The chief languages are the Syrian and Arabic. The manufactures of silk and cotton are in a flourishing condition, and large caravans frequently arrive from Bagdad and Bassora, charged with the products of Persia and India; consuls from various European powers reside here, to attend the interests of the respective nations.

Damascus is supposed to contain about 100,000 souls. It was formerly celebrated for the manufacture of sabres, which seem to have been constructed by a method now lost, of alternate thin layers of iron and steel, so as to bend even to the hilt without breaking, while the edge would divide the firmest mail. When Timur subdued Syria, about the beginning of the fifteenth century, he ordered all the artists in steel to migrate into Persia. The manufactures now consist of silk and cotton, and excellent soap. From the Mediterranean are imported metals and broad cloths; and the caravans of Bagdad bring Persian and Indian articles. This city also increases, by the gradual depopulation of the villages and country, which last always presents the chief symptoms of national prosperity, or decline. The Pashalik of Damascus is esteemed the first in Asia; and the office of Pacha has, in the decline of the Turkish empire, become in some measure hereditary, with absolute power of life and death, and without any appeal.

Smyrna may be regarded as the third city in Asiatic Turkey, containing about 120,000 souls. The flourishing seat of European commerce, and chief mart of the Levant trade, is said to have been founded by Alexander the Great, eminently distinguished from all other conquerors by the foundation, and not the destruction of cities. In the wars between the Turks and the Greeks, Smyrna sunk into great decline; and was taken with vast slaughter by Timur in 1402. The excellence of the haven ren-

\* Russell's Aleppo. Browne, 384, &c.







The Levant, or Turkey trade was formerly of great consequence to Great Britain; but since the middle of the last century has been more advantageous to France.

## CHAPTER IV.

## NATURAL GEOGRAPHY.

*Climate and Seasons. — Face of the Country. — Soil and Agriculture. — Rivers. — Lakes. — Mountains. — Forests. — Botany. — Zoology. — Mineralogy. — Mineral Waters. — Natural Curiosities.*

CLIMATE AND SEASONS.] THE climate of Asia Minor has always been considered as excellent. There is a peculiar softness and serenity in the air, not perceivable on the European side of the Archipelago. The heat of the summer is considerably tempered by the numerous chains of high mountains, some of which are said to be covered with perpetual snow.

FACE OF THE COUNTRY.] The general appearance of Asiatic Turkey may be regarded as mountainous; but intermingled with large and beautiful plains, which, instead of being covered with rich crops of grain, are pastured by the numerous flocks and herds of the Turcomans. The soil, as may be expected, is extremely various; but that of Asia Minor is chiefly a deep clay; and wheat, barley, and durra, form the chief products of agriculture\*. But excellent grapes and olives abound; and the southern provinces are fertile in dates. In Syria the agriculture is in the most deplorable condition. The peasants, though not sold with the soil, like those of Poland, are, if possible, yet more oppressed; barley bread, onions, and water, forming their constant fare†.

RIVERS.] The principal river of Asiatic Turkey is, beyond all comparison, the Euphrates, which rises from the mountains of Armenia, a few miles to the N. E. of Erzeron‡; and chiefly pursues a S. W. direction to Semisat, where it would fall into the Mediterranean, if not prevented by a high ridge of mountains. In this part of its course the Euphrates is joined by the Morad from the east, a stream almost doubling in length that of Euphrates; so that the latter river might more justly be said to spring from mount Ararat, about 160 British miles to the east of the imputed source. At Semisat, the ancient Samosata, this noble river assumes a southerly direction; then runs an extensive course to the S. E., and after receiving the Tigris, falls by two or three mouths into the gulph of Persia. The comparative course of the Euphrates may be estimated at about 1,400 British miles.

Next in importance is the Tigris, which rises to the north of the Medan about 150 miles south from the sources of the Euphrates, and pursues nearly a regular direction S. E. till it joins the Euphrates below Korna, about 60 miles to the north of Bassora; after a comparative course of about 800 miles. The Euphrates and the Tigris are both navigable for a considerable distance from the sea.

The third river in Asiatic Turkey is that called by the Turks Kizil Irmak, the celebrated Halys of antiquity, rising in mount Taurus not far from Erekli, but by other accounts more to the east, and pursuing a winding course to the north, nearly across the whole of Asia Minor, till it

\* Browne, §18.

† Volney, li. 413.

‡ Tournefort, li. 198.

join the Euxine sea on the west of the gulph of Sanfoun. The river Sacaria, the ancient Sangarius, or Sangaris, rises about 50 miles to the south of Angora, and running to the N. W. joins the Euxine, about 70 miles to the east of Constantinople.

In the next rank may be placed the classical river of Mæander, rising to the north of the ancient city of Apamia, and running, in a winding stream, about 250 British miles. It is called by the Turks Boyue Minder, or the Great Mæander, to distinguish it from a small tributary stream, which resembles it in mazes. The Minder, not far from its mouth, is about 100 feet broad; with a swift, muddy, and extremely deep current, having received a considerable accession of waters from the lake of Myus.

The Sarabat, or ancient Hermus, renowned for its golden sands, joins the Archipelago about 90 British miles to the north of the Minder, after a course of similar length.

The other rivers of Asia Minor are far more inconsiderable, though many of them be celebrated in classical history and poetry.

The chief river of Syria is the Orontes, now called Oron or Ofi, rising about 12 miles to the N. of Damascus, and running nearly due north till it suddenly turn S. E. near Antioch, after which it soon joins the Mediterranean.

**LAKES.]** Asiatic Turkey also contains numerous lakes. That of Van in the north of Kurdistan, is the most remarkable, being about 80 British miles in length from N. E. to S. W., and about 40 in breadth: it is said to abound with fish.

In Syria what is called the Dead Sea may be regarded as a lake of about 50 miles in length, and 12 or 13 in breadth. The lake of Rackama, to the south of Hilla and the ancient Babylon, is about 30 miles in length, and flows into the Euphrates.

Towards the centre of Asia Minor there is a remarkable saline lake, about 70 miles in length, and a mile or two in breadth, being the Tata or Palus Salfa of D'Anville's Ancient Geography.

Numerous other small lakes appear in Natolia, among which may be particularly mentioned that of Ulubad, anciently stiled the lake of Apollonia, which according to Tournefort is about 25 miles in circumference, and in some places seven or eight miles wide, sprinkled with several isles and some peninsulas, being a grand receptacle of the waters from mount Olympus. The largest isle is about three miles in circuit, and is called Aboullona, probably from the ancient name of the city which stood on it. About 50 miles to the N. E. was the lake called Afcanius by the ancients, now that of Inick.

**MOUNTAINS.]** Many of the mountains of Asiatic Turkey deserve particular attention, from their ancient celebrity. The first rank is due to the Taurian chain of antiquity, which was considered as extending from the neighbourhood of the Archipelago to the sources of the Ganges, and the extremities of Asia, so far as discovered by the ancients. But this notion little accords with the descriptions of modern travellers, or the researches of recent geography; and we might perhaps with equal justice infer that the Carpathian mountains, the Alps, and the Pyrenees constitute one chain. Science is equally impeded by joining what ought to be divided, as by dividing what ought to be joined. The Caucasian mountains have been well delineated by the Russian travellers, as forming a range from the mouth of the river Cuban, in the N. W., to where the river Kur enters the Caspian, in the S. E. The remaining intelligence is dubious and defective; but it would seem that a chain extends from Caucasus,

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caſus, S. W. to near the bay of Scanderoon. This ridge ſeems the Anti-Taurus of antiquity : but various parts of it were known by different names. At the other extremity of the Caucaſus other chains branch out into Perſia ; which they pervade from N. W. to S. E., but they may all be juſtly conſidered as terminating in the deſerts of the ſouth-eaſtern part of Perſia ; or as having ſo imperfect a connection with the mountains of Hindoo Koh, which ſupply the weſtern ſources of the Indus, that it would be mere theory to regard them as a continued chain. The chain of Taurus, now called Kuron, perhaps from the old Greek name Ceraunus, extends for about 600 miles E. and W. from the Euphrates to near the ſhores of the Archipelago. A recent traveller found the aſcent and deſcent, between Aintab and Boſtan, to occupy three days ; and the heights abound with cedars, ſavines, and junipers.

Towards the eaſt of Armenia is Ararat. It is a detached mountain, with two ſummits ; the hiſheſt being covered with eternal ſnow. In one of the flanks is an abyſs, or precipice, of prodigious depth, the ſides being perpendicular, and of a rough black appearance, as if tinged with ſmoke. This mountain belongs to Perſia, but is here mentioned on account of connexion.

Beyond Ararat are branches of the Caucaſian chain ; to which, as is probable, belong the mountains of Elwend, which ſeem to be the Niphates of antiquity.

In Syria the moſt celebrated mountain is that of Lebanon, or Libanus, running in the ſoutherly and northerly direction of the Mediterranean ſhore, and generally at the diſtance of about 30 or 40 miles. The Anti-Libanus is a ſhort detached chain, running nearly parallel on the eaſt. Theſe mountains are of conſiderable height, the ſummits being often covered with ſnow ; and they ſeem to be calcareous, the granite not appearing till the neighbourhood of mount Sinai and the Arabian gulph.

The eaſtern ſide of the Archipelago preſents many mountains of great height and claſſical fame, chiefly in the ranges extending from N. to S. Of theſe Olympus (now Keſhip Dag) is one of the moſt celebrated, and is deſcribed by Tournefort as a vaſt range covered with perpetual ſnow. Many ſmall ſtreams ſpring from Olympus, and the large lake of Ullabad is another receptacle of its waters.

About 140 miles to the weſt of Olympus riſes mount Ida, of great though not equal height. The ſummit of Ida was by the ancients called Gargarus ; from which extend weſtern prominences reaching to the Hallespont, and amidſt them ſtood the celebrated city of Troy ; Gargarus, or the ſummit of Ida, being about 30 miles from the ſhore ; and giving ſource to the Granicus, the Simois and other noted ſtreams, moſt of which run to the north. To the ſouth of the Minder, or Mæander, the Taurus detaches a chain, called Cadmus and Grius, bending towards the iſle of Cos and the Cyclades.

**FORESTS.]** The numerous mountains in Aſiatic Turkey are often clothed with immenſe foreſt of pines, oaks, beeches, elms, and other trees. The ſouthern ſhores of the Black Sea alſo preſent many gloomy foreſts of great extent. The abundance of timber ſupplies the inhabitants with fuel ; nor has pit-coal been explored in any part of Aſiatic Turkey.

**BOTANY.]** The extenſive provinces of Natolia, Syria, and Meſopotamia, ſince their reduction under the Turkiſh yoke, have been but little acceſſible to European curioſity. The natural productions of Syria, however, have been inveſtigated, though imperfectly, by ſeveral naturaliſts

of eminence, while the mountains and rich vales of Natolia towards the great Caucasian chain are almost wholly unknown. These countries having been inhabited and civilized from the remotest antiquity, possessing for the most part a dry rocky soil, with fewer rivers than any tract in Europe of equal extent, contain none of those low swampy levels that form so characteristic a feature in almost all the American countries, that compose the greater part of Holland, and occupy no small proportion of Hungary and the dominions north of the Baltic. Those vegetables therefore that inhabit swamps, lakes, and bogs, will be very sparingly found in the flora of Asiatic Turkey; nor will the indigenous alpine plants be more numerous, not indeed on account of the absence of high mountains, but from their having been hitherto almost entirely unexamined. Of the scanty catalogue of plants that have been found wild in the Asiatic part of the Ottoman territory, the following are the most worthy of notice.

Among the trees may be distinguished, the olive tree, abounding throughout the whole Archipelago and the shores of the Levant; the weeping willow, graceful with its slender pendent branches, which has adorned the banks of the Euphrates from time immemorial: the wild olive, bearing a small sweet esculent fruit; the white mulberry; the storax tree, from which exudes the fragrant gum-resin of the same name, the pomegranate; almond tree, and peach tree; the cherry, a native of Pontus in Natolia, whence it was brought to Rome by Lucullus; the lemon and orange; the myrtle, growing plentifully by the side of running streams; the plantain tree; the vine, in a perfectly wild state climbing up the highest trees, and forming verdant grottos among its ample festoons; the mastich, chio turpentine, and pistachia nut tree; the cypress, the cedar; a few large trees of which still remain on Mount Lebanon, the venerable relics of its sacred forests. Hibiscus Syriacus, distinguished by the uncommon splendour of its blossoms, and on this account much cultivated about Constantinople and other parts of the Turkish empire, where it does not grow spontaneously; the fig tree, and sycamore fig, abounding in Palestine and other parts of Syria; the date tree, the prickly cupped oak, from which are procured the finest Aleppo galls; the Oriental plane tree, highly esteemed for its shady tent-like canopy of foliage; and menispermum cocculus, the berries of which, commonly called cocculus indicus are much used by the natives for taking fish, on account of their narcotic qualities.

Of the lower trees and flowering shrubs the principal are the lilac, abounding on the banks of the Euphrates; the yellow and common jasmine, found plentifully in the thickets and woods of Syria; the long hollow stems of the latter of these are in great request among the inhabitants, as stems to their tobacco pipes; the Spanish and thorny broom occupying many of the sandy tracts that are of such frequent occurrence in Syria, and the oleander, a common ornament of every rivulet.

Several dying drugs and articles of the materia medica, are imported from the Levant, among which may be particularized madder; a variety of this called a lizari, is largely cultivated around Smyrna, which yields a much finer red dye than the European kind, and to this the superiority of the Greek and Turkish reds is in part to be ascribed; jalap, scammony, sebesten, croton tinctorium; ricinus communis, the seed of which yields by expression the castor oil; squiring cucumber, coloquintida; opium poppy, and spikenard.

A few esculent plants not commonly made use of elsewhere are the produce of Natolia and Syria, such as the mad-apple, Jew's mallow, and

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arum colocasia, remarkable for its sweet farinaceous root, while those of its kindred species are intolerably acrid.

ZOOLOGY.] The best horses in Asiatic Turkey are of Arabian extract, and are sparingly fed with a little barley and minced straw, to accustom them to abstinence and fatigue; but mules and asses are in more general use. Concerning the breed of cattle little is mentioned by travellers, but it seems inferior to those of Europe; and beef is scarce and bad. The mutton is superior; and the kid is a favourite repast.

In Asiatic Turkey appears that king of ferocious animals the lion, which is unknown to any region of Europe, and even to Asiatic Russia. Yet he rarely roams to the west of the Euphrates: but Tournesfort observed many tigers on Mount Ararat. He must mean the small tyger, or perhaps the leopard; for the royal or large tyger seems to be restricted to the wastes of Hindostan. The hyæna and the wild boar are known animals of Asia Minor, together with troops of jackals, which raise dreadful cries in the night. The cities and villages swarm with dogs, who are allowed to wander, as a constant defence against strangers or enemies.

The ibex, or rock goat, appears on the summits of Caucasus. The singular goats and cats of Angora have been already mentioned. The common antelope is also an inhabitant of Asia Minor, with numerous deer and hares. The partridges are generally of the red-legged kind, about a third larger than the common European.

MINERALOGY.] The mineralogy of those extensive and mountainous provinces remains in a deplorable state of imperfection. Ancient Lydia was famous for the production of gold; but in modern times no mines seem to be indicated, except those of copper which supply Tokat; lead, and copper ore, with rock crystals, have been observed in the island of Cyprus. The mountains of Judea, according to Hæfelquist, are of a very hard limestone of a yellowish white; and towards the east of a loose grey limestone.

MEDICAL WATERS.] The most noted medical waters are those of Prusa, at the bottom of Mount Olympus. The baths are splendid and paved with marble, with two reservoirs or rather cisterns for bathing, one for the men, another for the women. The water smokes continually, and is so hot as to scald the hand; but in the baths it is mingled with cold water from the numerous streams of Olympus. There are many other hot springs in different quarters of Natolia.

### ISLANDS BELONGING TO ASIATIC TURKEY.

The chief islands in the Archipelago, considered as belonging to Asia, are Mytilene, Scio, Samos, Cos, and Rhodes.

Mytilene, the ancient Lesbos, is the most northerly and largest of these isles, being about 40 British miles in length, by 24 at its greatest breadth. The mountainous appearance of this isle is agreeably diversified with bays and inlets of the sea, and plantations of olives, vines, and myrtle\*. There are hot baths issuing from cliffs resembling those of St. Vincent near Bristol, and which indicate the isle to be chiefly calcareous. The climate is exquisite; and it was anciently noted for wines, and the beauty of the women.

Scio, the ancient Chios, is about 36 British miles in length, but only about 13 in medial breadth. The Chian wine is celebrated by Horace,

\* Dallaway's Constantinople, p. 810.



and retains its ancient fame. The town of Scio, on the east side of the isle, is handsome and convenient. The Greeks here enjoy considerable freedom and ease: and display such industry that the country resembles a garden. This particular favour arises from the cultivation of the mastic trees, or rather shrubs, for they are small evergreens which supply the gum, so acceptable to the ladies of the Sultan's haram, or, as we term it, the seraglio. The whole isle is mountainous. Tournefort observed here tame partridges, kept like poultry; and Chandler saw numerous groves of lemons, oranges, and citrons, perfuming the air with the odour of their blossoms, and delighting the eye with their golden fruit. The Genoese possessed this beautiful isle about 240 years, but lost it in 1566. Opposite to Scio, on the Asiatic shore, is Chelme, where the Turkish fleet was destroyed by the Russians, 1770. The inhabitants of Scio are supposed to be about 60,000\*.

Samos is about 30 miles in length, and 10 in breadth. This isle is also crossed by a chain of hills, and the most agreeable part is the plain of Cora. Tournefort computes the inhabitants at 12,000, all Greeks with a Turkish aga, or military officer, and a cadi or judge. The pottery of Samos was anciently excellent; but at present most branches of industry are neglected. Pitch is prepared from the pine trees in the north part of the island, and the silk, honey, and wax are esteemed. Most of the mountains are of white marble, and swarm with game of various descriptions. The best haven is that of Vati to the N. W. Some remains are observed of the celebrated temple of Juno †.

Cos is about 24 miles in length, by three or four in breadth; but has been little visited by modern travellers. Pliny styles Cos a most noble isle; and from it was first derived the name and substance of the whetstone. It is now covered with groves of lemon trees, and there is an Oriental plane tree of vast size. The chief trade is in oranges and lemons; and Cos is the residence of a Turkish pasha ‡.

Rhodes is about 36 British miles in length, by 15 in breadth, an island celebrated in ancient and modern times. It is fertile in wheat, though the soil be of a sandy nature. The population is computed at about 30,000. The city of the same name, in which no Christian is now permitted to dwell, stands in the north end of the isle; and was anciently noted for a colossus in bronze, about 130 feet high. This isle was for two centuries possessed by the knights of St. John of Jerusalem, thence styled of Rhodes, till 1523, when it was taken by the Turks; and the emperor Charles V. assigned to the knights the island of Malta §.

Along the southern shore of Asia Minor there are some small isles, among which is that of Castel Rosso, S.E. of Patira. But they are of no moment when compared with the large and celebrated island of Cyprus, which is about 160 British miles in length, and about 70 at its greatest breadth. It was long possessed by the Ptolemies of Egypt, till it fell under the Roman power; when it remained a portion of the Byzantine empire, till it was usurped by a Greek prince, who was expelled by Richard I. of England. This monarch bestowed the kingdom of Cyprus on the house of Lusignan, as a compensation for the loss of the throne of Jerusalem. In the fifteenth century the heirs of the house of Lusignan resigned this isle to the Venetians; but in 1570

\* Tournefort, p. 261. Van Egmont, i. 207, &c. Chandler, 40.

† Ib. i. 307. Dallaway, 251.

‡ Ib. i. 260, who gives a long description of Rhodes.

§ Van Egmont, i. 262.

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it was seized by the Turks. The soil is fertile, yet agriculture is in a neglected state. The chief products are silk, cotton, wines, turpentine, and timber. The wine of Cyprus is deservedly celebrated. The oranges are excellent; and the mountains are covered with hyacinths and anemones, and other beautiful flowers. Cyprus is supposed to have derived its name from the abundance of copper ore; and it is said to have anciently produced gold, silver, and emeralds. What is called the Paphian diamond is a rock crystal, found near Paphos; and there is a quarry of amianthus, while several hills consist chiefly of talc. The other mineral productions are red jasper, agates, and umber. The Cypriots are a tall and elegant race; but the chief beauty of the women consists in their sparkling eyes. To the disgrace of the Turkish government the population of this extensive island is computed at 50,000 souls! Cyprus is pervaded by a chain of mountains, among which is a third *Olympus*, some primitive name, which seems to have been general for a mountain of great height. There is not one river in the island\*, that continues its course in the summer; but there are many ponds, lakes and fens, producing a damp and malignant air. The chief cities are Nicosia, the capital and residence of the governor, and Famagusta†.

## RUSSIAN EMPIRE IN ASIA.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Names.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs and Antiquities.*

**EXTENT.]** THIS large portion of the habitable globe extends almost the whole length of Asia, from about the 37th degree of longitude east of London to more than 190°, or 170° of western longitude. As the northern latitude is very high, the degree shall only be assumed at 30 miles, and the length may thus be computed at about 4,590 geographical miles. The greatest breadth from the cape of Cevero Vostochnoi, called in some maps Taimura, to the Altaian chain of mountains on the south of the sea of Baikal, may be 28° or 1,680 geographical miles. In British miles the length may be roughly computed at 5,350; and the breadth at 1,960, an extent which will be found to exceed that of Europe.

**BOUNDARIES.]** The farthest eastern boundary is that of Asia, and the seas of Kamchatka and Ochotsk; while the northern is the Arctic ocean. On the west the frontiers correspond with those between Asia and Europe. The southern limits require more explanation. The river Cuban, part of the Caucasian chain, and an ideal line, divide the Russian territory from Turkey and Persia. The boundary then ascends along the north of the Caspian through the stepp or desert of Issim, and the

\* It is said however that the river Piscopia flows, and even drives grist mills through the year.  
† Van Egmont, l. 281. Mariti, &c.

eastern shore of the river Ob, to where it issues from the Altaian mountains, when it meets the vast empire of China, and proceeds along that chain to the sources of the Onon, where it includes a considerable region called Daouria, extending about 200 miles in breadth, to the south of the mountains called Yablonny; the limit between Russia and Chinese Tatory being partly an ideal line; and partly the river Argoon which joined with the Onon constitutes the great river Amur. Thence the boundary returns to the mountainous chain, and follows a branch of it to a promontory on the north of the mouth of the Amur.

**ORIGINAL POPULATION.]** The population of Asiatic Russia may be regarded as wholly primitive, except a few Russian colonies recently planted, and the Techucks in the part opposite to America, who have been supposed to have proceeded from that continent, as already mentioned, because their persons and customs are different from those of the other Asiatic tribes. Next to the Techucks, in the farthest north, are the Yukagirs, a branch of the Yakuts, and yet farther west the Samoides. To the south of the Techuks are the Coriaks, a branch of the same race; and yet farther south the Kamchadals, a distinct people, who speak a different language. The Lamuts are a part of the Mandshurs or Tunguses, who have been vaguely called Tartars or Tatars, though they neither belong to that race nor to the Monguls. The Tunguses are widely diffused between the Yenisei and the Amur; and the southern tribes ruled by a khan or monarch, conquered China in the seventeenth century. The Ostiaks, and other tribes of Samoides have penetrated considerably to the south between the Yenisei and the Irtysh, and are followed by various tribes of the Monguls, as the Calmucs, Burats, &c. and by those of the Tatars or Huns, as the Teluts, Kirguses, and others. The radically distinct languages amount to seven, independent of many dialects and mixtures\*.

**NAMES.]** The vast extent of northern Asia was first known by the name of Sibir, or Siberia; but this appellation seems gradually to pass into disuse. When the Monguls established a kingdom in these northern regions, the first residence of the princes was on the river Tura, on the spot where now stands the town of Tiumen, about 180 miles S. W. of Tobolsk †. But the khans afterwards moved to the eastern shore of the Irtysh, where they founded the city of Isker, near Tobolsk. This new residence was also called Sibir, from what etymon or cause is not explained; and the name of the city passed to the Mongul principality. When the Russians began the conquest of the country, being unconscious of its extent, the name of this western province was gradually diffused over half of Asia.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of this vast part of Asia commences at a recent period; nor was it disclosed to the attention of civilised Europe till the middle of the sixteenth century. It is indeed a singular circumstance in human affairs, that America may be said to have been discovered before Asia, though it be natural to suppose that the latter would have engaged a more deep and immediate interest, because the barbarous swarms in the extremity of Asia had repeatedly astonished and almost subjugated Europe. It has already been mentioned that in 1242 the Monguls under Sheibani established a principality in the western part of Siberia, around Tobolsk and the river Tura, whence this

\* See the *Hist. des Decouvertes Russes*, &c.; Berne 1779, 1787; 6 vols. 8vo; being an abstract of the *Travels of Pallas, Gmelin, Ghiorgi*, &c.

† *Booke's Russ.*, li. 60.

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In the reign esteemed the far as the river Moscow †; but of Siberia comm the Russian thr angel, having o attempt the con added to his titl till the beginnin ments, and one residing at To Towards the mil as far east as the the year 1711. discover the oth Beering coasted but his importan Aleutian isles we other important Cook.

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principality was sometimes styled that of Turan\*. The history of this distant principality is obscure, and lost in the superior splendour of the other Mongul dynasties.

In the reign of Ivan Vasilivitch, by his conquest over the Tatars esteemed the founder of Russian greatness, some incursions were made as far as the river Ob, and some Mongul chiefs were brought prisoners to Moscow†; but more than half a century elapsed before the real conquest of Siberia commenced in the reign of Ivan Vasilivitch III., who ascended the Russian throne in 1534. Trogonaff, a Russian merchant of Archangel, having opened a traffic for Siberian furs, the czar was induced to attempt the conquest of the country which supplied them, and in 1538 had added to his titles that of lord of Sibir or Siberia. It was not however till the beginning of the seventeenth century that they had firm establishments, and one Cyprian was appointed first archbishop of Sibir in 1621, residing at Tobolsk, where he drew up a narrative of the conquest. Towards the middle of the seventeenth century the Russians had extended as far east as the river Amur, but Kamchatka was not finally reduced till the year 1711. Bering and other navigators afterwards proceeded to discover the other extreme parts of Asia. In his first voyage of 1728, Bering coasted the eastern shore of Siberia as high as latitude  $67^{\circ} 18'$ ; but his important discoveries were made during his voyage of 1741. The Aleutian isles were visited in 1745; and in the reign of the late empress other important discoveries followed, which were completed by those of Cook.

In the south the Mongul kingdom of Cazan having been subdued in 1552, and that of Astracan in 1554, and the Russian monarchy extended to the Caspian sea, a considerable accession was made to the progressive geography by the chart of that sea, drawn by command of Peter the Great. It hence appeared, that all geographers, ancient and modern, had mistaken the very form of the Caspian, which extends greatly from north to south, instead of spreading from east to west, as formerly delineated. In the reign of the late empress many important additions were made to the progressive geography by Pallas and other scientific travellers; and a Russian Atlas was published, which may be regarded as nearly complete.

**HISTORICAL EPOCHS.]** The Russian power in Asia is of such recent origin, that it affords few historical epochs, except those which have been already mentioned in the progressive geography. The history of Capschak, or the kingdom of Astracan, before and after the conquest of the Monguls, is obscure and uninteresting; nor can that of Cazan, or Kazan, a more northern and barbarous state, claim superior attention. The city of Kazan was built in 1257, and became the capital of a small independent Mongul principality, partly in Europe, and partly in Asia, A. D. 1441. The Russians assert that they possessed Astracan before the invasion of the Monguls in the thirteenth century; but while even this is doubtful, other parts of the history of Asiatic Russia cannot be supposed to be very clear. The acquisitions on the frontiers of Turkey and Persia are recent and well known events.

As the Russian empire in Asia borders for a great extent upon Chinese Tatory, or rather the Monguls and Mandshurs, who acknowledge the protection and supremacy of China, it may be proper here to commemorate a few events which have arisen from this proximity. It has already

\* This must not be confounded with the Touran (or Tatory) of the Persians.

† Core's Russ. Dis. p. 177.

been observed, that about the middle of the seventeenth century the Russians had advanced to the river Amur; here they subdued some Tungusian tribes, and built some small fortresses. The Chinese monarch Cambi having formed a similar design, the two great powers unavoidably clashed: open hostilities commenced about 1680, and the Chinese destroyed the Russian forts. In August 1689 the treaty of Nerzhinsk, so called from the town in Daouria, was signed by the Russian and Chinese plenipotentiaries, and the limits specified were a chain of mountains far to the north of the Amur, and the source of the small river Gorbitza, thence to where that river joins the Amur, and lastly along the Argoon, or Argounia, &c.\* By this treaty the Russians assert that they not only lost a wide territory, but also the navigation of the river Amur, which would have been of great consequence to their remote possessions in Asia; yet the advantage was gained of a commercial intercourse with the Chinese. In 1727 the limits were continued westward from the source of the Argoon to the mountain Sabyntaban, near the conflux of two rivers with the Yenisei; the boundary being thus ascertained between the Russians and the Monguls subject to China. The trade with China has been latterly conducted at Zuruchaitu, on the river Argoon, lat. 50, long. 117; and at Kiachta, about 90 miles S. of the sea of Baikal, lat. 51, long. 106. This boundary between two states is the most extensive on the globe, reaching from about the 65th to the 145th degree of longitude; eighty degrees (latitude fifty) computed at 39 geographical miles, will yield the result of 3,120 miles. Its history, therefore, becomes singular and interesting.

**ANTIQUITIES.]** The most curious antiquities seem to be the stone tombs which abound in some steppes, particularly near the river Yenisei, representing in rude sculpture human faces, camels, horsemen with lances, and other objects. Here are found, besides human bones, those of horses and oxen, with fragments of pottery and ornaments of dress †.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Ecclesiastic Geography. — Government. — Laws. — Population. — Colonies. — Army. — Navy. — Revenues. — Political Importance and Relations.*

**RELIGION.]** THE Grecian system of the Christian faith, which is embraced by the Russians, has made inconsiderable progress in their Asiatic possessions. Many of the Tatar tribes in the S.W. are Mahometans; and others follow the superstition of Dalai Lama, of which an account shall be given in the description of the Chinese empire. But the more eastern Tatars are generally addicted to the Shaman religion, a system chiefly founded on the self-existence of matter, a spiritual world, and the general reconstitution of all things ‡. The Shamans even believe that the Burchans, or gods themselves, arose from the general mass of matter and spirit. Their epochs of destruction and reconstitution somewhat resemble those of the Hindoos. While common souls immediately receive their final decree, the virtuous become chubils, or wandering spirits, who are purified by transmigration, so as also to become

\* Core, 220. Du Halde, iv. † Dec. Russ. vi. 210. ‡ Tooke's Russia, 1783, iv. 42.

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Burchans, or gods. Between men and gods are the Tengri, or spirits of the air, who direct sublunary affairs, and all the trifles so important to man, but beneath the most remote attention of the gods. The infernal regions chiefly contain those who have offended the priesthood. This system is intimately connected with that of the Dalai Lama, and is so widely diffused, that some have asserted Shamanism to be the most prevalent system on the globe. In Asiatic Russia it is professed by most nations, as a great part of the Tatars, with the Fins, Samoieds, and Ostiaks, the Mandshurs, and Burats, and Tunguses; and has even penetrated to the Coriaks and Techuks, and people of the eastern isles\*.

The archiepiscopal see of Tobolsk is the metropolitan of Russian Asia in the north, and that of Astracan in the south. There is another see, that of Irkutsk and Nerzhinsk, and perhaps a few others of recent foundation.

GOVERNMENT.] Siberia is divided into two great governments, that of Tobolsk in the west, and Irkutsk in the east. The smaller provinces are Kolivan, Nerzhinsk, Yakutsk, and Ochotsk. In the S. W. is the government of Caucasus, with one or two other divisions, intermingling Europe and Asia. At a distance from the capital the government becomes proportionably lax, and tribute is the chief mark of subjection.

POPULATION.] The population of Siberia cannot be computed at above three millions and a half†; so that Europe can in future have little to apprehend from the Tataric swarms. Small Russian colonies have been established in several of the distant provinces and isles. The political importance and relations of this part of the Russian empire chiefly relate to China and Japan.

## CHAPTER III.

### CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Education. — Cities and Towns. — Manufactures and Commerce.*

MANNERS AND CUSTOMS.] THE manners and customs of Asiatic Russia vary with the numerous tribes by whom that extensive region is peopled. The Tatars, properly so called, are the most numerous, not only remaining in their ancient kingdom of Sibir, but constituting many other tribes in the west, as the Nogays, the Kirguses or Kaizaks, the Bashkirs, and other tribes as far as the sources of the river Ob. Next in importance are the Monguls, of whom one tribe, the Kalmuks, are found to the west of the Caspian; while the others, called Burats, Torguts, &c. are chiefly around the sea of Baikal. Yet farther to the east are the Mandshurs, or Tunguses. Such are the three radically distinct divisions of men, whom former European ignorance classed under the general name of Tartars.

The manners of the Tatars, who are the same people with the Huns of antiquity, are minutely described by those authors who have delineated the fall of the Roman empire, prior to which period they seem to have been absolutely unknown to the ancients. It would be superfluous to enter into a detail of the manners and customs of the various nations in Asiatic Russia, for which the reader may be referred to the works of

\* Tooke's Russia, 1783. iii. 42.

† Tooke's View, ii. 132.



Pallas, and other recent travellers. In so ample a theme the difficulty is to select; and the manners of the Monguls may be chosen as a specimen. Those of the Russian empire are wholly Nomadic, their herds consisting of horses, camels, oxen, sheep, and goats. The women tan leather, dig the culinary roots, prepare the winter provisions, dried or salted, and distil the koumiss, or spirit of mare's milk. The men hunt the numerous beasts and game that roam through the vast wilds. Their tents are formed of a kind of felt, and in some parts they erect little temples, and the priests have also wooden hovels around the temples. The Kalmuks are divided into three ranks; the nobility, whom they call white bones, the common people, who are bondmen, and termed black bones; and the clergy, descending from both, who are free\*. In like manner the noble ladies are called white flesh, and the common people black flesh; but the pedigrees are only reckoned by the bones. The power of the *Taidja*, or chief prince, consists solely in the number and opulence of his subjects, territory being of no estimation in so wide a region. These subjects form an *Olus*, divided into *Imaks*, from 150 to 300 families, each *Imak* being commanded by a *Saissan*, or noble. If there be a great khan, or emperor, the princes are only guided by him in affairs of general importance. The tribute is about a tenth part of the cattle and other property; but, on the first summons, every man must appear on horseback before the prince, who dismisses those who are unfit for the fatigues of war. The weapons are bows, lances, and sabres, and sometimes fire-arms; and the rich warriors are clothed in mail of interwoven rings, like that used in Europe till the fifteenth century. But they cannot oppose regular armies, and are apt even to disorder those of their allies.

The Monguls are rather short in stature, with a flat visage, small oblique eyes†, thick lips, and a short chin, with a scanty beard; the hair black, and the complexion of a reddish or yellowish brown; but that of the women is clear, and of a healthy white and red. They have surprising quickness of sight and apprehension, and are docile, hospitable, beneficent, active, and voluptuous. Industry is a virtue entirely female, yet great, and accompanied with perpetual cheerfulness. Their religious books are in the dialect of Tangut, or Tibet, and there is a schoolmaster in every *imak*, who imparts more knowledge to the boys than would be expected. Animal food is abundant, and sometimes mixed with vegetable, while the general drink is water; but they sometimes indulge in four milk, prepared after the Tatarian manner, butter-milk, and koumiss; but mead and brandy are now greater favourites. When pasturage begins to fail, the whole tribe strike their tents, generally from ten to fifteen times in the year, proceeding in the summer to the northern, and in the winter to the southern wilds. The herds, men, women, and children, form a regular procession, and are followed by the girls, singing with harmony and spirit. The amusements of these jovial wanderers consist in running races on horseback, in which even the girls excel; archery, wrestling, pantomime, dances, and the songs of the young women, generally accompanied by the lute, viol, and pipe, the themes of their ditties being gigantic tales of chivalry, and amorous adventures and sentiments; but the melody is harsh and dismal. Cards are not unknown, but chess is the favourite game.

Mr. Tooke has printed some curious pieces of Kalmuk poetry, from which a characteristic specimen shall be selected, being an elegy on the

\* Tooke, iv. 14.

† The eye ascending towards the temples, like the Chinese, seems a peculiar feature of the Monguls and Mandchurs. The Tatar eye is small, but straight, or horizontal.

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" The water of the vast ocean,  
When it has raged with all its fury, becalms itself again ;  
This is the course of the world ; and likewise still to forget,  
Ye white herds, with the mark of Schabiner !  
Thou prince Schereang, in the van as conductor,  
Riding on thy noble reddish bay horse ;  
The prince Zebek following with his numerous troop,  
Ah ! Ubaschakhan, conduct as now the Torgots !  
There over rocks, over stones, and rough places,  
The herds drag themselves along, and become lean,  
By flying over the land all covered with snow and frost.  
Ah ! how the droves trot over the snow !  
Now you are got thither and come to your resting place.  
Why was there any quarrel between thee and the white khan † ?  
Ye otherwise peaceful Torgots between the Yaik and the Volga,  
How far ye now retreat !  
Ah ! the beautiful Volga (Idshel) is abandoned by the Torgot.  
Ah ! the lovely stream of Mazak is now likewise become an orphan.  
Ah ! thy many excellent young princes,  
Ye are now all marched far away over the Yaik.  
Ah ! thou well arranged troop of Torgots,  
Art now perhaps arrived at the Irtisch (Ertshis).  
Ah ! helpless, lamentable time !  
Thou excellent host of warriors marching towards Altai,  
Ye have no princely women among you !  
Fare ye well, ye who bring up the rear of the hord,  
Princes Akfakal and Kirep !"

Such, with some slight shades of difference, are also the manners of the Tatars and Mandshurs.

The three distinct barbaric nations of Tatars, Monguls, and Tunguses, or Mandshurs, are by far the most interesting in these middle regions of Asia, as their ancestors have overturned the greatest empires, and repeatedly influenced the destiny of half the globe. The vague name of Tartary is nearly discarded from our maps, and might yield with far greater precision to names derived from the seats of the chief nations, as Tungusia, or Mandshuria, in the east, Mongolia in the centre, and Tataria in the west. Of these the Monguls are the chief people, and the account already given of their manners will suffice to impart an idea of the ethical condition of Asiatic Russia.

LANGUAGE.] The languages of all these original nations are radically different ; and among the Tunguses, Monguls, and Tatars, there are some slight traces of literature : and not a few manuscripts in their several languages. The history of the Tatars, by Abulgasi, is a favourable specimen of Tataric composition. The late emperor of China ordered many of the best Chinese works to be translated into the Mandshur language, which, having an alphabet, may be more easily acquired than the original. In the Mongul language there are also many books, written in the various

\* Russia, 1783. 4 vols. 8vo. vol. iv. p. 66.

† Zagan Khoian, the name by which the Russian monarch is known among almost all the eastern nations.

countries to which their wide conquests extended. Superior, even amid their barbarism, to the chief original nations of Africa and America, the central races of Asia deserve an attention which has been lavished upon inferior objects.

**CITIES AND TOWNS.]** In Asiatic Russia the principal city is Astracan, at the mouth of the Volga, which is supposed to contain 70,000 inhabitants. This city was founded by the Monguls of Kipichak, yet some assert that the Russians built Astracan before Batu, the Mongul conqueror, seized this region. In 1554 the Monguls were expelled. Astracan is built on several small hills, that rise amid the meadows of the Volga. The fortrefs on the west is triangular, but the walls of the city are neglected. The wooden houses have exposed it to frequent conflagrations, and attempts have been vainly made to enforce the use of brick. Vines are cultivated in the neighbourhood, and other fruits abound. There are twenty-five Russian churches, and two convents. The Armenians, Lutherans, and Papists, have also their places of worship; and even the Hindoos have been permitted to erect a temple\*. The chief trade of Astracan is in salt and fish, particularly sturgeon and kaviar from the Volga; and it also attracts some portion of oriental commerce. The fishery on the Caspian, which centers at Astracan, is esteemed of the utmost consequence to the empire.

Azof, on the Asiatic side of the Don, is of small importance, except as a fortified post. The chief towns on the Asiatic side of the Volga are Samara and Stauropol. At the mouth of the river Ural, or Jaik, stands Gurief; but the chief place after Astracan is Orenburg, founded in the year 1740, to protect the acquisitions in these parts, and promote their commerce. Nor have these views failed, for Orenburg is the seat of a considerable trade with the tribes on the east of the Caspian.

On passing the Uralian chain, first occurs the city of Tobolsk, which only contains about 15,000 souls, but is esteemed the capital of Siberia. Being mostly built of wood, it was nearly consumed by a violent fire about 1786; but, it is believed, is now rebuilt, chiefly of stone. Tobolsk is more distinguished as the residence of the governor and archbishop than for the importance of its commerce. The upper town stands on a hill, on the east side of the Irtysh, and contains a stone fortrefs of some strength. Indian goods are brought hither by Kalmuck and Bucharian merchants, and provisions are cheap and plentiful.

Kolyvan is a town of some consequence on the river Ob. In the neighbourhood there are silver mines of considerable produce. To the north of Kolyvan is Tomsk, said to contain about 8000 souls.

Farther to the east the towns become of less consequence, but a village attracts attention when situated in a desert. On the river Yenisei is a small town of the same name, and another called Sayansk, whence the adjacent part of the Altaian chain is called the mountains of Sayansk.

On the river Angara, which issues from the sea of Baikal, stands Irkutsk, supposed to contain 12,000 inhabitants. There are several churches and other edifices of stone, and the wooden houses are large and convenient. Irkutsk is the chief mart of the commerce between Russia and China, the see of an archbishop, and the seat of supreme jurisdiction over Eastern Siberia†. The numerous officers and magistrates have introduced the customs and fashions of Peter-

\* Tooke's Russia, iv. 541.

† Lessops, ii. 344.

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burg, and European equipages are not uncommon in this distant region.

On the wide and frozen Lena stands Yakutsk, with some stone churches, but the houses are mostly of wood, and inhabited chiefly by Russians, as the Yakuts are fond of a wandering life. The Lena is here about two leagues in width, (though about 700 miles from its mouth,) but is greatly impeded with ice; and there are only a few small barks, chiefly employed in supplying the town with provisions. Ochotsk, on the sea of the same name, may be rather regarded as a station than a town.

**MANUFACTURES.]** There are some manufactures, particularly in leather, at Astracan; and salt is prepared there, and in several other places in Asiatic Russia. Isinglass is chiefly manufactured on the shores of the Caspian, from the sounds or air-bladder of the sturgeon, and the beluga. Kaviar is the salted roe of large fish. There is a considerable fabric of nitre, about 40 miles to the N. of Astracan. The Tatars and Bashkirs make felts of a large size, some of which are exported. The Russia leather is chiefly fabricated in the European provinces, being tanned with willow bark, and afterwards stained. Shagreen is prepared from the hides of horses or asses, but only a particular part of the back is fit for this purpose; and the grain is given with the hard seeds of the greater orach, prest into the leather while moist\*. Pitch is made by the boors from the pines of Siberia. Near the Uralian mountains are several manufactures in iron and copper.

**COMMERCE.]** The chief commerce of this part of the Russian empire consists in fables, and other valuable furs, which are eagerly bought by the Chinese, who return tea, silk, and porcelain: that with the Kirgises is carried on by exchanging Russian woollen cloths, iron, and household articles, for horses, cattle, sheep, and beautiful sheep-skins. On the Black Sea there is some commerce with Turkey, the exports being furs, kaviar, iron, linen, &c. and the imports, wine, fruit, coffee, silks, rice. In the trade on the Caspian the exports are the same, but the return chiefly silk. The principal Russian harbours are Astracan, Gurief, and Kisliur, near the mouth of the Terek, but the best haven is Baku, belonging to the Persians. The Tatars, on the east of the Caspian, bring the products of their country, and of Bucharia, as cotton yarn, furs, stuffs, hides, rhubarb; but the chief article is raw silk from Shirvan and Ghilan, on the west of the Caspian.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons. — Face of the Country. — Soil and Agriculture. — Rivers. — Lakes. — Mountains. — Forests. — Botany. — Zoology. — Mineralogy. — Mineral Waters.*

**CLIMATE AND SEASONS.]** IN Asiatic Russia the climate extends from the vine at the bottom of Caucasus, to the solitary lichen on the rocks of the Arctic ocean. Through the

\* Tooke's View, iii. 331.

greater part of Siberia, the most southern frontier being about 50°, while the northern ascends to 78°, the general climate may more justly be regarded as frigid than temperate; being, in three quarters of the country, on a level with that of Norway and Lapland, untempered by the gales of the Atlantic. To the south of the sea of Baikal the climate parallels that of Berlin and the north of Germany, so that the finest and most fertile regions in Middle Asia belong to the Chinese. The chains of high mountains, which form the southern boundary of these provinces, also contribute to increase the cold; and the sea of Baikal is commonly entirely frozen from December till May. The finest climate in these eastern parts seems to be that of Daouria, or the province around Nerzhinsk; and the numerous towns on the Amur evince the great superiority of what is called Chinese Tatar, which is comparatively a fertile and temperate region. The change of the seasons is very rapid; the long winter is almost instantaneously succeeded by a warm spring, and the quickness and luxuriance of the vegetation exceed description.

**FACE OF THE COUNTRY.]** In a general view of Asiatic Russia, the northern and eastern parts present vast marshy plains, covered with almost perpetual snow, and pervaded by enormous rivers, which, under masses of ice, pursue their dreary way to the Arctic ocean. Even the central parts of Siberia seem destitute of trees, vegetation being checked by the severe cold of so wide a continent. Towards the south there are vast forests. The sublime scenes around the sea of Baikal are agreeably contrasted with the marks of human industry, the cultivated fields and the garden\*. Even in the south, the rivers have already acquired the size of the Danube and the Rhine, and they are navigable with safety for a great extent. The vast plains called steppes constitute a feature almost peculiarly Asiatic; but the mountains do not correspond in dignity, rather resembling the Apennines than the Alps, or even the Pyrenees.

**SOIL AND AGRICULTURE.]** Many parts of Siberia are totally incapable of agriculture; but in the southern and western districts the soil is of remarkable fertility. Toward the north of Kolyvan barley generally yields more than twelve fold, and oats commonly twenty fold. Buckwheat, in this black light mould, is apt to run into stalk, but sown in the poorest spots yields from twelve to fifteen fold. Exclusive of winter wheat, most of the usual European grains prosper in southern Siberia. The culture of the olive tree has been attempted near Astracan, and the heat of the summer was sufficient, but the winter cold too severe. The best rhubarb abounds on the banks of the Ural, or Jaik, in the southern districts watered by the Yenisei, and in the mountains of Daouria.

But in all parts of the Russian empire agriculture has made little progress, nor indeed is it possible while the peasantry are slaves, and fold with the soil.

**RIVERS.]** Some of the largest rivers of Asia belong to the Russian empire, nearly equalling in the length of their course any others on the globe. The Ob, including its wide estuary, may be said to hold a comparative course of 1,900 British miles, while that of the Yenisei is about 1,750, and that of the Lena 1,570. In the same mode of measurement the Hoan Ho of the Chinese will, in its wandering progress, exceed the Ob; while the Kian Ku, pervading the centre of China

\* See Bell's animated description of this region.

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† Bell, l. 307—313

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The Ob may be traced from the lake of Altyn, lat.  $51^{\circ}$ , if its source be not even followed along the Shabekan river to lat.  $47^{\circ}$ . The upper Irtysh flows into the lake of Saifan, whence it issues under the name of Lower Irtysh, and after a circuit of great extent, joins the Ob below Samarof. It rises about the  $45^{\circ}$ , and ought perhaps to be regarded as the principal stream. However this be, the Ob, piercing the Altaian chain, after having received many small streams, passes Kolyvan, and at some distance to the N. receives the Tomm, and other large rivers from the east. Below Samarof, as already mentioned, it receives the great river Irtysh, and runs into the sea of Ob, a gulf of the Arctic ocean. The Ob is navigable almost to its source, that is, to the lake of Altyn, and abounds with fish, but the sturgeon of the Irtysh are the most esteemed. After it has been frozen for some time, the water becomes foul and fetid, owing to the slowness of the current, and the vast morasses; but the river is purified in the spring by the melting of the snow\*. This is justly and universally esteemed the largest river in the Russian empire. The shores and channel are generally rocky till it receive the Ket, after which the course is through clay, marl, sand, and morasses.

Next is the Yenisei, which is considered as deriving its source from the mountains to the S.W. of the Baikal, in the river called Siskit; but the name Yenisei is not imparted till many streams have joined, when it holds its course almost due north to the Arctic ocean. Yet with far more propriety might the Yenisei be derived from the sea of Baikal, whence flows the Angara, afterwards absurdly called Tunguika †, being a stream of more length and importance than the Yenisei, so that the name of Angara might be continued till it join the Arctic sea. This river has some rapids, but is navigable for a great way. The Angara, afterwards called Tunguska, is said to be about a mile in breadth, when it issues from the Baikal, and is so clear that the pebbles of the bottom may be seen at the depth of two fathoms ‡. The channel is full of rocks for the space of about a mile from its egress; and there is no passage for the smallest boats, except along the eastern bank. The pilots and sailors who navigate the lake speak of it with much reverence, calling it the Holy Sea, and the mountains about it the Holy Mountains; and are highly displeased with any person who speaks of it with disrespect, or calls it a lake §.

The Selenga is a noble river, farther to the south, which flows into the sea of Baikal ¶, after receiving the Orchon and other rivers, among which is the Tula or Tola, the last stream that occurs till the wide desert be passed, which here divides the Russian empire from China Proper. The territory adjacent to the Selenga and the Onon is the most interesting in Siberia, abounding with new, and truly Asiatic botany and zoology.

The last of these large rivers is the Lena, which rises to the west of the sea of Baikal, running nearly parallel with the Angara, from which it is separated by a chain of hills. The Lena receives the Witim, and the

\* Pennant, Arc. Zool. clxi.

† There are two other rivers of this name farther to the north, the largest joining the Yenisei in lat.  $66^{\circ}$ .

‡ Bell, i. 207—213.

§ Bell, i. 316.

¶ The Selenga might be regarded as the original Angara, or Yenisei, as the Ob, and which also pass through lakes.



Olekma from the Yablonoi mountains; and till near Yakutsk, pursue a course from the S.W. to the N.E. a direction of considerable utility, as affording navigation to the remote regions. From Yakutsk the course is nearly due north: the channel being of great breadth and full of islands.

Such are the most important rivers of Asiatic Russia, the Volga having been already described in the European division. The Yaik is a considerable stream which flows into the Caspian: the name was recently changed for that of Ural, on account of a daring insurrection of the tribes bordering on the Yaik \*. The Terek also joins the Caspian on the west, and its chief consequence is derived from the fertility of its shores. The Kuban, or ancient Hypanis, runs in an opposite direction into the Euxine, the lower shores being plain, and destitute of wood, while near the sources are large forests.

Towards the other extremity of Asiatic Russia is the Anadir, which pervades the country of the Techuks. The long course of the Amur belongs to the Chinese dominions. The Argoon may be properly considered as the original Amur, while the Onon, also called the Schilka, which is regarded as another source of that great river, may be considered as entirely Russian. The course of the Onon is about 500 miles; and it receives numerous streams from mountains on the N. and S.

**LAKES.]** In the north of Siberia the most considerable lake is that of Piaizinko. In the south the sea of Baikal is fresh, but the extent far exceeding that of any other lake, it has been described among the inland seas of Asia. Between the river Ob and the Irtysh is a large lake about half the length of the Baikal, or 170 miles in length, divided by an island into two parts, called the lakes of Tchany and Soumi. In this quarter there are many smaller lakes, and others to the north of the Caspian, some of which are salt, particularly that of Bogdo, near the small mountain so called.

The Altan Nor, or golden lake, sometimes corruptly called Elton, is a large saline lake on the E. of Zaritzin. The lake of Altyn, already mentioned in the account of the river Ob, is called by the Russians Teletzko; and is considerably elevated on the north side of the Altaian mountains; but from the best maps is not above 40 miles in length, and 20 in breadth.

**MOUNTAINS.]** The Uralian mountains have been already described in the account of European Russia. The grandest chain in Siberia is that called the mountains of Altai, which, according to Pallas, crossing the head of the Irtysh, presents precipitous and snowy summits between that river and the sources of the Ob. Thence it winds by the springs of the Yenisei, and the south of the sea of Baikal, where it is called the mountains of Sayansk. Here the Altaian chain bends in a more northerly direction to the neighbourhood of Ochotsk, under the appellation of the Yablonoi ridge, a name implying the mountains of Apples. Branches of inferior height pass to the eastern extremity of Asia under the latter name, or that of the Stanovoi mountains. The same chain in the north of Daouria is also called the Daourian mountains; and in this quarter a lower ridge passes the south towards China.

According to Dr. Pallas Bogdo Tolu, or Bogdo Alim, the almighty mountain, rears its pointed summits with striking sublimity, on the limit between the Soongarian and Mongolian deserts, while a chain extends to

\* This river alone rises on the E. of the Ural mountains, and afterwards pierces the granitic chain, and passes W. Dec. Russ. iv. 309.

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the lake of Altyn in the N.W. and another to the S.E. called Changay, and a snowy ridge, that of Massart, passes south, and is supposed to join those of Tibet: and lastly this parent mountain sends forth a rocky arm called Allakoola, or the chequered ridge, and by the Tatars Ala Tau, connected with the Kirgusian Alginskoi Sirt. Between the last ridge, and the Massart, rise the river Sirt, or Sihon, and the Talas. From Alla Koola the Ili runs north into the lake of Palkati, or Balkash, and the Emil and Tshui flow in the same direction. From the mighty Bogdo itself rises the Upper Irtysh, which flows into the lake of Saizan: hence this great mountain must be situated about long. 93°. lat. 44°. It is thus probable that the Altaian chain is connected with the southern by other ridges besides that of Massart, the deserts between Siberia, and Hindostan \*, and western Bucharia being alternate hills and plains, and extremely rocky.

The western part of the Altaian chain is chiefly argillaceous, with granitic heights, but many parts are calcareous. Sinnaia-Sopka, or the blue mountain, the chief summit in the government of Kolyvan, does not exceed 3000 feet above the sea, and consists of coarse granite with argillaceous schistus, and limestone at the bottom. Here a granitic ridge runs north towards the river Tsarish, abounding with ores of silver, copper, and zinc.

The Schlangenberg is the richest in minerals, and near the river Alay to the N.W. branches of hills continue full of minerals, and often composed of porphyry and granite, one of them on the north of the river Ouba rising to 5,691 English feet above the bed of the stream. That space of the Altaian chain which runs between the Ob and the Yenisei has been little explored; but affords granite, porphyry, jasper, primitive and secondary limestone, with serpentine, petro-silex, slate, mountain crystal, carnelian, and calcedony: one of the highest summits is the Sabin, near the source of the Abakan. In general they are bare, the chief forests being in the bottoms near the rivers. That portion called the Sayansk mountains also consists chiefly of granite, and porphyry, with several mines of talc, or Muscovy glass. Branches extend on both sides of the sea of Baikal, likewise presenting mines of talc, and promontories of milk-white quartz. Near Irkutsk coal has been found; and there are salt springs in many places. Other products of this rich district shall be mentioned in the mineralogy.

The mountains of Nerzhinsk, or Russian Daouria, send branches towards the Selenga and the Amur. The chief heights are towards the sources of the Onon and Ingoda, where there are precipitous summits of granite. A ridge passing S.W. and N.E. to the south of Nerzhinsk between the rivers Onon and Argoon (the last of which is the real Amur), is the most fertile in minerals of all Asiatic Russia. Among the products may be named granite, porphyry, jasper, calcedony, carnelian, onyx, large smoky topazes, beryl, or aqua-marine, the real topaz, and the jacint. In this opulent district are also salt lakes, and warm springs with vitriolic pyrites, ores of alum, native sulphur, and coals. The metals are zinc, iron, copper, and many mines of lead ore, containing silver and gold. The zoology and botany are alike curious and interesting †.

The chain of Stanovi, otherwise called the mountains of Ochotsk,

\* Pallas.

† The mountain Adunshollo, celebrated for minerals, is in the southern extremity of Russian Daouria. *Der. Russ.* v. 503. That volume, and the sixth, or last, may be consulted for an account of this country.

is only a continuation of the mountains of Daouria. This part has been little explored; but produces nearly the same substances as the former. A great singularity of this ridge is, that some entire branches consist of beautiful red and green jasper. That branch which pervades Kamchatka is little known, being covered with perpetual ice and snow, but it abounds with volcanoes.

This grand chain contains almost the whole mountains of Siberia, the remainder of the land on the W. of the Yenisei being level; and to the E. of that river are only several long ranges extending from the S. to the N.

But in the S.W. part of Asiatic Russia some ranges deserve attention, as the lower part of the Uralian chain, which bends, as before observed, to the W. above Orenburg.

The classical range of Caucasus forms a partial limit, between the Russian empire and those of Turkey and Persia. Between the Euxine and the Caspian the Caucasian chain extends for about 400 B. miles; and where the chief heights are distinctly marked, about five miles in breadth, but in many places 20 or 30. The summits are covered with eternal ice and snow; and consist as usual of granite, succeeded by slate and limestone. In ancient times they produced gold; and there are still vestiges of silver, lead, and copper; and it is supposed of lapis lazuli. The valleys abound with excellent forest trees\*.

FORESTS.] Asiatic Russia is so abundant in forests, that particular names have not been assigned to so vast an extent. On the west of the government of Irkutsk an enormous dark and marshy forest of resinous trees extends to the river Khan†. The northern and eastern parts of Siberia are bare of wood; the Norway fir not being found farther north than lat. 60, while the silver fir does not exceed lat. 58°. In Europe, on the contrary, the Norway fir forms extensive forests in Lapmark, within the Arctic circle‡.

STEPPES.] After the forests, may be considered the extensive level plains, an appearance of nature almost peculiar to Asia, and some parts of European Russia: but somewhat similar to the sandy deserts of Africa. The steppes are not so barren of vegetation, being mostly only sandy, with scattered patches of thin grass, and at wide intervals a stunted thicket. Between the mouths of the Don and Volga is a stepp which resembles the bed of a sea; with spots of salt, and saline lakes, being entirely destitute of fresh water and wood§.

On the eastern side of the Volga begins an extensive stepp, formerly called that of the Kalmuks, from tribes who used to roam there, till they withdrew from the Russian dominions in 1771. To the S. it is bounded by the Caspian sea and the lake Ural; while to the N. it may be regarded as connected with the stepp of Issim; and on the E. may be considered as extending to the river Sarusa; the greater part not belonging to the Russian dominions, but being abandoned to the wandering Kirgises. This vast desert extends about 700 British miles from E. to W.; and, including Issim, nearly as far from N. to S., but on the N. of the Caspian the breadth does not exceed 220. A ridge of sandy hills stretches from near the termination of the Uralian chain towards the Caspian; the rest is a prodigious sandy level, with sea shells and salt pools.

This stepp of Barabin, N.W. of Omsk, is about 400 miles in length, and 300 in breadth, containing a few salt lakes, but in general of a good

\* See the last Travels of Pallas, 1793-4. London 1801, 2 vols. 4to.

† Dec. Russ. vii. 180.

§ Tooke's View, l. 170.

‡ Pennant, A. Z. p. clxxx.

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Russia in Asia- unequal portions- Don and Wolga- by the Caspian S- of this district is- and is protected- is botany it grea- count has already- per, beech, and d- peach, and the fig- the apricot, the w- in the thickets, a- by those exquisit- azalea pontica: t- laurel, the bay, an- of Azof, and the- perfumed and en- Caucasian rose.

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By far the larg- panse of Siberia, the snowy summi- winters are of gre- none but the hard- hazle, which end- cannot exist in a S- be traced at the S- as the banks of t- the northern blast- to penetrate north-

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black soil, interspersed with forests of birch \*. That of Issimaspire but rarely to the same quality: and in both are found many tombs, inclosing the remains of pastoral chiefs, Tatar or Mongul.

The vast space between the Ob and the Yenisei, from the north of Tomsk to the Arctic ocean, is regarded as one stepp, being a prodigious level, with no appearance of a mountain, and scarcely of a hill. The same term is applied to the wider space between the Yenisei and the Lena, between the Arctic ocean on the north, and a river Tunguska, lat. 65°; and to the parts beyond the Lena, as far as the river Kolyma, or Covima.

**BOTANY.]** When we consider the vast extent of the Asiatic provinces of the Russian empire, the scantiness of their population, and the few years that have as yet elapsed since the first attempt to investigate their natural productions, we shall feel rather surprised at what has been done, than disappointed because no greater progress has been made in arranging and describing their indigenous vegetables. The labours of Steller and Gmelin, and lastly of Pallas, under the munificent patronage of the Empress Catharine, have disclosed to the view of science the wilds of Siberia, and the deserts of Tatory; and though many extensive tracts continue wholly unexplored, yet from the ample specimen that has been surveyed, we may form a very probable conjecture concerning the botany of the remainder.

Russia in Asia, with regard to its flora, is divided by nature into two unequal portions: the smaller of these is bounded on the west by the Don and Wolga, on the east by the Uralian mountains, and on the south by the Caspian sea, and the Turkish and Persian frontiers. The climate of this district is delicious, and the soil fertile: it slopes towards the south, and is protected from the northern blasts by lofty mountainous ridges: in its botany it greatly resembles the province of Taurida, of which an account has already been given: the cedar, the cypress, the savine, red juniper, beech, and oak, clothe the sides of the mountains; the almond, the peach, and the fig abound in the warm recesses of the rocks; the quince, the apricot, the willow-leaved pear, and the vine, are of frequent occurrence in the thickets, and on the edges of the forests. The bogs are adorned by those exquisitely beautiful plants, the rhododendron ponticum, and azalea pontica: the olive, the stately wide-spreading eastern plane tree, the laurel, the bay, and laurustinus, grow in abundance on the shores of the sea of Azof, and the Caspian; and the romantic vales of the Caucasus are perfumed and enlivened with the syringa, the jasmine, the lilac, and the Caucasian rose. From so flattering a specimen it is not to be doubted that future naturalists will gather an abundant harvest of useful and beautiful vegetables in these districts, which have hitherto been very inadequately noticed.

By far the larger part of the Russian dominions in Asia is the wide expanse of Siberia, sloping towards the north, and shut up on the south by the snowy summits of the Altaian and other mountainous chains. As the winters are of great length and severity throughout the whole of this tract, none but the hardiest vegetables are found to inhabit it. The oak and the hazel, which endure the rigours of a German winter without shrinking, cannot exist in a Siberian climate; dwarfish specimens indeed of each may be traced at the foot of the Altaian mountains, quite across Asia, as far as the banks of the river Amur, in Daouria, where, being screened from the northern blasts, they resume their natural size; but all that attempt to penetrate northward become more diminutive as they advance, and soon

\* The poverty of descriptive language is frequently to be regretted. A Russian stepp sometimes resembles a desert, at other times a savannah waving with luxuriant grass.

entirely disappear. Even the common heath, and bog myrtle, which cover the lower parts of Lapland, venture but a very little way eastward of the Uralian mountains. We are not however hence to conclude, that the mighty rivers of Siberia pour their everlasting streams through a barren waste of perpetual snow; on the contrary, they are bordered with inexhaustible forests of birch, of alder, of lime, of Tatarian maple, of black and white poplar, and aspen, besides millions of noble trees of the pine species, such as the fir, the Scotch pine, the larch, the stone pine, and yew-leaved fir. Nor during their short summer are they destitute of many beautiful plants, that lie concealed under the snow during the greater part of the year.

The Siberian plum, and crab, the mountain ash, Tatarian honey-suckle, Tatarian mulberry, and the Daourian rose, form thickets of exquisite beauty, under shelter of which arise the white flowered peony, the yellow faranne lily, whose roots are a favourite food with the Tatarian tribes, and a multitude of others, a bare list of whose names would be neither amusing nor instructive. Only two plants more need be mentioned, the heracleum panaces, and sibiricum, from the dried stalks of which the natives procure a saccharine efflorescence, whence, by fermentation and distillation, a coarse ardent spirit is made, that enables them to enjoy the supreme beatitude of all the northern nations, drunkenness.

ZOOLOGY.] In the greater part of Asiatic Russia the rein-deer, which extends to the farther east, performs the office of the horse, the cow, and the sheep; if we except Kamchatka, where dogs are used for carriage. But the south may perhaps be considered as the native country of that noble animal the horse, being there found wild, as well as a species of the ass\*. The terrible urus, or bison, is yet found in the Caucasian mountains; and the argali, or wild sheep, is hunted in Siberia. The ibex, or rock goat, is frequent on the Caucasian precipices; and large stags occur in the mountains near the Baikal, with the musk animal; the wild boar, wolves, foxes, and bears, of various names and descriptions, are also found. That kind of weazel called the sable affords a valuable traffic by its furs. Some kinds of hares appear, little known in other regions; and the castor or beaver is an inmate of the Yenisei. The walrus, or large kind of seal, once termed the sea horse, is no stranger to the Arctic shores; and the common seal extends to Kamchatka, while the manati, perhaps the mermaid of fable, inhabits the straits of Bering, and the isles between the continents.

The horses of the Monguls are of singular beauty, some being ribbed like the tyger, and others spotted like the leopard. The nostrils of the foals are commonly slitted, that they may inhale more air in the course. The three great Nomadic nations of the centre of Asia, the Tatars, Monguls, and Mandshurs, have no aversion to horse flesh, which is in their opinion superior to beef; but it is never eaten raw, as fabled, though they sometimes dry it in the sun and air, when it will keep for a long time, and is eaten without farther preparation. The *adon*, or stud, of a noble Mongul, may contain between three and four thousand horses and mares. The cattle are of a middling size, and pass the winter in the stepps or deserts. As these nations use the milk of mares, so they employ the crow for draught, a string being passed through a hole made in their nostril. Mr. Bell met a beautiful Tatar girl astride on a cow, attended by two male servants.

The best sables are found near Yakutsk and Nerzhinsk; but those of

\* Pennant, A. Z. i. 2. See also Dec. Russ. vi. 309.

Kamchatka

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\* Tooke's View, ‡ Near mount Ea Dr. Pallas discovered near Krasnojarsk.

Kamchatka are the most numerous, and several stratagems are employed to catch or kill the animal, without any injury to the skin, which is sometimes worth ten pounds on the spot. The black foxes are also highly esteemed, one skin being sometimes sufficient to pay the tribute of a village\*. The rock or ice fox, generally of a white colour, sometimes blueish, is found in great numbers in the eastern Archipelago; this animal rivals the ape in sly tricks and mischief. The bear is destroyed by many ingenious methods. The Koriaks contrive a loop and bait hanging from a tree, by which he is suspended. In the southern mountains his usual path is watched, a rope is laid in it, with a heavy block at one end, and a noose at the other. When thus entangled by the neck, he is either exhausted by dragging so great a weight, or, attacking the block with fury, he throws it down some precipice, where it seldom fails to drag him to destruction. On the European side of the Uralian chain, where the peasants form bee-hives in tall trees, the bear is destroyed in his attempt to seize the honey, by a trap of boards suspended from a strong branch, and slightly attached to the entrance of the hive: the animal finding this platform convenient for his purposes, undoes the slight fastening to get at his luscious repast, but is instantly conveyed to a great distance, and remains suspended from the branch, till he be discovered and shot by the contrivers.

MINERALOGY.] The mineralogy of Siberia is equally fertile, and displays many singular and interesting objects. Peter the Great, who directed his attention to every object of utility, was the first who ordered these remote mines to be explored, which have since supplied great resources of national wealth and industry.

The chief gold mines of Siberia are those of Catherinburg, or Ekaterinburg, on the east of the Uralian mountains, about lat. 57°, where an office for the management of the mines was instituted in 1719. The mines of various sorts extend to a considerable distance on the N. and S. of Catherinburg; and the foundries, chiefly for copper and iron, are computed at 105. But the gold mines of Beresof, in this vicinity, were of little consequence till the reign of Elizabeth. The mines of Nerzhinsk, discovered in 1704, are principally of lead mixed with silver and gold; and those of Kolyvan, chiefly in the Schlangenberg, or Mountain of Serpents, so called by the German miners, began to be worked for the crown in 1748.

The gold is sometimes found native, but generally mingled with various substances, particularly silver.

Besides the copper mines in the Uralian mountains, there are also some in those of Altai. The most singular ore is the dentritic, somewhat resembling fern, of a pale colour, and perhaps containing silver. Malachite, or stalactitic copper, is found in the greatest perfection in a mine about 30 miles S. of Catherinburg; what is called the Armenian stone is a blue malachite†. The red lead of Siberia is found in the mines of Beresof, on a micaceous sand stone. This substance, it is well known, has disclosed a new metal called chrome.

But the iron mines of Russia are of the most solid and lasting importance, particularly those which supply the numerous foundries of the Uralian mountains‡. Yet Russia still imports quicksilver and zinc; and the semi-metals are rare.

\* Tooke's View, iii. 43.

† Guthrie, Table of Gems. See XV. p. 212.

‡ Near mount Enor, or Nemir, not far from the river Yenisei, in the south of Siberia, Dr. Pallas discovered a large mass of native iron. See Des. Russ. vi. 228, which places it near Krasnojarsk.



Rock salt is chiefly found near the Ileik, not far from Orenburg. Coal is scarcely known; but sulphur, alum, sal ammoniac, vitriol, nitre, and natron, are found in abundance.

Nor must the gems of Siberia be omitted, of which there is a great variety, particularly in the mountain Adunshollo, near the river Argoon, in the province of Nerzhinsk or Daouria. Common topazes are found in Adunshollo, in quadrangular prisms, as is also the jacint. The beryl or aqua-marine is found in Adunshollo, but in greater perfection in what are called the gem mines of Mourfintsky, near Catherinburg, along with the chrysolite. Red garnets abound near the sea of Baikal; and a yellowish white kind was discovered by Laxman. The green felspar of Siberia is a beautiful stone, by the Russians carved into various ornaments. The Daourian mountains between the Onon and the Argoon also produce elegant onyx.

The beautiful stones called the hair of Venus and Thetis, being limpid rock crystals, containing capillary schorl, red or green, are found near Catherinburg.

The beautiful red and green jaspers of Siberia are from the most distant mountains, as already mentioned, and lapis lazuli is found near the Baikal. The Uralian chain also presents fine white marble; and in the numerous primitive ranges there are many varieties of granite and porphyry.

**MEDICAL WATERS.]** Medical waters do not abound in Asiatic Russia. There is a fetid sulphureous spring near Sarcpta, on the frontier of Europe and Asia, and several others in Siberia. The baths on the Terek, towards the Caucasus, are of a middle temperature: and there are others in the province of Nerzhinsk; among the Kalmuks to the south of the Altai in the country sometimes styled Soongaria, and in the neighbourhood of the sea of Baikal. Springs impregnated with naphtha and petroleum occur near the Caspian and the Baikal.

But the chief medical waters are those in Kamchatka, as described by Lesseps. The hot baths of Natchikin, not far from a volcano in the south of that peninsula, seemed not to have been traced to their source, but they fall in a rapid cascade about 300 feet above the baths, benevolently erected by Mr. Kasloff, for the benefit of the Kamchadals, the stream being about a foot and a half deep, and six or seven feet wide. The water is extremely hot, and of a very penetrating nature. On the west side of the gulph of Penjina is a hot spring which falls into the Tavatona, being of a great size and emitting clouds of smoke.

### ISLES BELONGING TO ASIATIC RUSSIA.

These were formerly divided into the Aleutian, Andrenovian, and Kurilian groups, with the Fox isles, which extend to the promontory of Alaska in North America. The Aleutian isles, on the east of Kamchatka, were multiplied by the early navigators as they saw them in different directions, but are now reduced to only two worth notice, Bering's isle and Copper isle. The Andrenovian isles may be regarded as the same with the Fox Islands, being the western part of the same range: if they must be distinguished, the Andrenovian form a group of six or more isles, about 500 miles to the S.E. of Bering's\*. It appears that the Fox and Andrenovian isles are a kind of elongation of the American promontory of Alaska, and may more justly be reserved for the description of North America,

\* Cox, Russian Disc. 25; but he says the N. E.

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The Kurilian islands towards the land number, of which of these isles are pine. Most of the discoveries of isles in the south it would even appear confusion, describing inhabitants of the Kamchadals; and in the from what circumstances

**I**N the last century this wide empire borders of Mongolia, influence over Tibet, extending from the Japanese seas, to the which, taking the geographical, or be computed from of China about 1 nearly 2,030 British. This empire, the China Proper; the and west; and last. These countries are different in the circumstances, that it was

\* The Andrenovian admit the Aleutian or their observations.



late English navigators having dispelled many doubts concerning the real position of these isles. Bering's isle and Copper isle are both uninhabited, and do not merit particular description\*.

The Kurilian isles extend from the southern promontory of Kamchatka towards the land of Jesso and Japan, being supposed to be about 20 in number, of which the largest are Poro Mufchir and Mokanturu. Several of these isles are volcanic; and some contain forests of birch, alder, and pine. Most of them swarm with foxes of various colours. Even after the discoveries of La Perouse it is difficult to distinguish what particular isles in the south of this chain are implied by the Russian appellations, and it would even appear that the Russian navigators had, with their usual confusion, described the same islands under different names. The inhabitants of the Kurilian isles seem to be of similar origin with the Kamchadals; and in the interior of some is a people called hairy Kurilians, from what circumstance is not explained.

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## THE CHINESE EMPIRE.

**I**N the last century the Chinese emperors, of the Mandshur race, extended this wide empire over many western countries, inhabited by wandering hordes of Monguls, Mandshurs, and Tatars; and established such firm influence over Tibet, that the Chinese empire may now be considered as extending from those parts of the Pacific ocean called the Chinese and Japanese seas, to the rivers Sarafou and Sihon in the west, a space of  $81^{\circ}$ , which, taking the medial latitude of  $30^{\circ}$ , will amount to nearly 4,200 geographical, or 4,900 British miles. From N. to S. this vast empire may be computed from the Uralian mountains, lat.  $50^{\circ}$ , to the southern part of China about lat.  $21^{\circ}$ , being  $29^{\circ}$  of latitude, 1,740 geographical, or nearly 2,030 British miles.

This empire, therefore, consists of three principal divisions; that of China Proper; the territory of the Mandshurs and Monguls, on the north and west; and lastly the singular and interesting region of Tibet or Tibbet. These countries are not only so wide and important, but are so radically different in the form of government, in the manners, and other circumstances, that it will be proper to describe each apart.

\* The Anislenovian isles have almost vanished from English maps and charts, which only admit the Aleutian or Fox islands, and the Russian navigators must have erred grossly in their observations.

## PART I.

## CHINA PROPER.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Names. — Extent. — Boundaries. — Original Population. — Progressive Geography. — Historical Epochs and Antiquities.*

**NAMES.]** THIS distinguished region is by the natives styled Tchou-Koue, which signifies the centre of the earth, as they proudly regard other countries as mere skirts and appendages to their own. After the conquest of the northern part by the descendants of Zingis, it was styled Cathay, a name loudly celebrated in travels, poetry, and romance; while the southern part was known by the appellation of Mangi. The origin of the name of China, or Tsin, seems uncertain, but the connexion between this word and the Sinæ of the ancients appears imaginary, the country of the Sinæ being shewn by Gossellin to be much farther to the west. The Mahometan travellers of the ninth century, published by Renaudot, call this country Sin, but the Persians pronounce it Tchîn\*.

China Proper extends from the great wall in the north to the Chinese sea in the south, about 1,140 geographical, or 1,330 British miles. The breadth from the shores of the Pacific to the frontiers of Tibet may be computed at 884 geographical, or nearly 1,030 British miles. In square miles the contents have been estimated at 1,297,999, and in acres at 830,719,360†. On the east and south the boundaries are maritime, and to the north they are marked by the great wall and the desert of Shamo; the confines with Tibet on the west seem to be chiefly indicated by an ideal line, though occasionally more strongly marked by mountains and rivers: particularly according to D'Anville the river Yalon, which falls into the Kian-ku, the country of Sifan lying between Tibet and China, on the south of the Eluts of Kokonor.

**ORIGINAL POPULATION.]** The population of China seems wholly aboriginal, but the form of the features appears to imply intimate affinity with the Tatars, Monguls, and Mandshurs; yet the Chinese probably constitute a fourth grand division, not strictly derived from either of these barbaric races.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of China, as known to the western nations, is not of ancient date. The oldest external relation which we possess is that of the two Mahometan travellers in the ninth century, who surprise us with accounts of barbarism and cannibalism little to be expected: but the Arabs are so fond of fables, that implicit credit may be safely withheld from several passages. Yet these travellers impart high ideas concerning the Chinese empire, and mention Canesu, supposed to be Canton, as a city of great trade, while the emperors resided at Camdan, which seems to be the city also called Nankin, or the Southern Court, in contradistinction to Pekin or the Northern Court. This wide empire continued, however, obscure to the inhabitants of Europe till the travels of Marco Polo appeared, in the end of the thirteenth

\* English Translation. Remarks, p. 40.

† Macartney's Emb. iii. Appen. century.

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century. Oderic of Portenau described his voyage to China 1318\*, and our Sir John Mandeville visited China about 1340. In the following century there seems to have been a strange and unaccountable intermission of intercourse and research. But after this relapse of darkness, the rays of more genuine and authentic knowledge gradually emerged by the discovery of the Cape of Good Hope, and the subsequent enterprizes of the Portuguese.

**HISTORICAL EPOCHS.]** The Chinese history is said to commence, in a clear and constant narration, about 2,500 years before the birth of Christ. The founder of the monarchy is Fo-Hi; but the regular history begins with Yao †. The dynasties or families who have successively held the throne amount to 22, from the first named Hia, to the present house of T'ing ‡. Yu, the first emperor of the house of Hia, is said to have written a book on agriculture, and to have encouraged canals for irrigation; and it is also asserted that he divided the empire into nine provinces. The ancient revolutions of China would little interest the general reader. The dynasties, as usual, generally terminate in some weak or wicked prince, who is dethroned by an able subject. Sometimes the monarchy is divided into that of the south, which is esteemed the ruling and superior inheritance; and that of the north. The emperor Tai T'fong, who reigned in the seventh century after Christ, is regarded as one of the greatest princes who have filled the Chinese throne. The Mandshurs to the north of China repeatedly influenced the succession to the empire; but the Monguls under Zingis and his successors seized the five northern provinces. Hoaiting, who began to reign A.D. 1627, was the last prince of the Chinese dynasties. Some unsuccessful wars against the Mandshurs, had rendered this emperor melancholy and cruel; and insurrections arose, the most formidable being conducted by two chiefs, Li and Tchang. The former besieged Peking, which was surrendered by the general discontent, and the emperor retiring to his garden, first slew his daughter with his sabre, and afterwards hanged himself on a tree, having only lived 36 years. The usurper seemed firmly seated on the throne, when a prince of the royal family invited the Mandshurs, who advanced under their king T'fong Te. The Mandshur monarch had scarcely entered China when he died; and his son of six years of age was declared emperor, the regency being entrusted to his uncle. The young prince, named Chum Tching, was the first emperor of the present dynasty, and has been followed by four princes of the same Mandshur family.

**ANTIQUITIES.]** Among the remains of Chinese antiquity may be mentioned the coins of the ancient dynasties, of which arranged cabinets are formed by the curious natives. There are also several pagodas, or ornamented towers, sometimes erected in commemoration of great events; many temples, which are low buildings of a different construction from the pagodas; and some triumphal arches, which boast considerable antiquity.

But the chief remain of ancient art in China is that stupendous wall, extending across the northern boundary §. This work, which is deservedly esteemed among the grandest labours of art, is conducted over the summits of high mountains, some of which rise to the height of 5,225 feet, across the deepest vales, over wide rivers by means of arches; and in many parts is doubled or trebled to command important passes, and at the

\* Foster's Disc. in the North, p. 147.  
 ‡ Li. i. 266, &c.

† Du Halde, iii. 7. Hays, 1756. 4to.  
 § Sir G. Staunton, ii. 360, 8vo.

distance of almost every hundred yards is a tower or massy bastion. The extent is computed at 1,500 miles; but in some parts of smaller danger it is not equally strong nor complete, and towards the N.W. is only a rampart of earth. For the precise height and dimensions of this amazing fortification the reader is referred to the work already quoted, whence it appears that near Koopeko the wall is 25 feet in height, and at the top about fifteen feet thick: some of the towers, which are square, are 48 feet high and about 50 feet wide. The stone employed in the foundations, angles, &c. is a strong grey granite; but the greatest part consists of blueish bricks, and the mortar is remarkably pure and white.

Sir George Staunton considers the era of this great barrier as absolutely ascertained, and he asserts that it has existed for two thousand years. Mr. Bell, who resided for some time in China, and whose travels are deservedly esteemed for the accuracy of their intelligence, assures us\* that this wall was built about 600 years ago (that is, about the year 1160), by one of the emperors, to prevent the frequent incursions of the Monguls, whose numerous cavalry used to ravage the provinces, and escape before an army could be assembled to oppose them. Renaudet observes, that no oriental geographer, above 300 years in antiquity, mentions this wall†: and it is surprising that it should have escaped Marco Polo; who, supposing that he had entered China by a different route, can hardly be conceived, during his long residence in the north of China, and in the country of the Monguls, to have remained ignorant of so stupendous a work. Amidst these difficulties, perhaps it may be conjectured that similar modes of defence had been adopted in different ages, and that the ancient rude barrier having fallen into decay, was replaced perhaps after the invasion of Zingis, by the present erection, which even from the state of its preservation, can scarcely aspire to much antiquity.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Ecclesiastical Geography. — Government. — Laws. — Population. — Colonies. — Army. — Navy. — Revenues. — Political Importance and Relations.*

RELIGION.] ACCORDING to Du Halde, the ancient Chinese worshipped a supreme being, whom they styled Chang Ti, or Tien, which is said to imply the spirit which presides over the heavens, but in the opinion of others is only the visible firmament. They also worshipped subaltern spirits, who presided over kingdoms, provinces, cities, rivers, and mountains. Under this system, which corresponds with what is called Shamanism, sacrifices were offered on the summits of hills.

About A.D. 65 the sect of Fo was introduced into China from Hindostan. The name was derived from the idol Fo, (supposed to be the Boodh of Hindostan), and the chief tenets are those of the Hindoos, among which is the metempsychosis, or transition of souls from one animal to another. The priests are denominated Bonzes, and

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\* Travels, ii. 122. 8vo.

† Ut supra, 137.

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† See Staunton's transla

Fo is supposed to be gratified by the favour shewn to his servants. Many subordinate idols are admitted; but as the Jesuits found the followers of Fo the most adverse to Christianity, they have absurdly enough called them Atheists.

Since the fifteenth century many Chinese literati have embraced a new system, which acknowledges an universal principle, under the name of T'ai-ki, seeming to correspond with the soul of the world of some ancient philosophers. This opinion may indeed deserve the name of Atheism; nor is it unusual to find ingenious reasoners so far disgusted with gross superstitions as to fall into the opposite extreme of absurdity. But such opinions are confined to very few; and the Chinese are so far from being atheists that they are in the opposite extreme of Polytheism, believing even in petty demons who delight in minute acts of evil, or good. There is properly no order of priests, except the Bonzes of the sect of Fo; this sect and that of Lao Kian, which is the same with that of the Tai See, admit of monasteries. The Chinese temples are always open, nor is there any subdivision of the country known in the country\*.

**GOVERNMENT.]** The government of China is well known to be patriarchal. The emperor is indeed absolute; but the examples of tyranny are rare, as he is taught to regard his people as his children, and not as his slaves. The stability of the government, in all its essential, and even minute forms and customs, justly astonishes those who are the most versed in history. It arises from a circumstance unknown in any other government, the admission and practice of the principle asserted by lord Bacon that *knowledge is power*. For all the officers of government pass through regular education, and a progress of rank, which are held indispensable. Of these officers, who have been called mandarins, or commanders, by the Portuguese, there are nine classes, from the judge of the village to the prime minister. The profession requiring a long and severe course of study, the practice of government remains, like that of medicine, unshaken by exterior events; and while the imperial throne is subject to accident and force, the remainder of the machine pursues its usual circle. In so vast an empire, with a computed population of more than 30,000,000, perhaps the stability of the state is incompatible with much freedom; yet the ideas of an European are shocked by the frequent use of the rod, a paternal punishment which would in his eyes appear the most degrading species of slavery. The soldiers, however, shew the greatest tenderness to the people, and every sentence of death must be signed by the emperor.

The governors of the provinces have great and absolute power, yet rebellions are not unfrequent. Bribery is also an universal vice: and the Chinese government, like many others, is more fair in the theory than in the practice. Yet the amazing population, and the general ease and happiness of the people, evince that the administration of the government must be more beneficial than any yet known among mankind.

**LAWS.]** The Chinese laws are ancient, but numerous†, and edicts of the reigning dynasty have restrained the mandarins within stricter limits of duty.

**POPULATION.]** The population of China has been a topic of considerable debate. Pauw, a bold and decisive assertor, supposes that the

\* Pauw, *Recherches Philosophiques sur les Egyptiens et les Chinois*, tom. ii. 217.

† See Staunton's translation of the *Ta T'ing Leu Lee*, or *Laws of China*.

population is exaggerated when it is computed at 82,000,000\*. The recent English embassy was astonished at the excess of population; and Sir George Staunton has published the following table, from the information of a mandarin of high rank, who had every opportunity of exact knowledge.

TABLE of the population and extent of China Proper, within the great wall. Taken in round numbers from the statements of Chow-la-Zhin.

| Provinces.               | Population.  | Sq. miles. | Acres.      |
|--------------------------|--------------|------------|-------------|
| Pe-che-lee - -           | 38,000,000   | 58,949     | 37,727,360  |
| Kiang-nan, two provinces | 32,000,000   | 92,961     | 59,495,070  |
| Kiang-See - -            | 19,000,000   | 72,176     | 46,192,640  |
| Tche-kiang - -           | 21,000,000   | 39,150     | 25,056,000  |
| Fo-chen - -              | 15,000,000   | 53,480     | 34,227,200  |
| Hou-pe } Hou-quang       | { 14,000,000 | 144,770    | 92,652,800  |
| Hou-nan }                | { 13,000,000 |            |             |
| Hon-an - -               | 25,000,000   | 65,104     | 41,666,560  |
| Shan-Tung - -            | 24,000,000   | 65,104     | 41,666,560  |
| Shan-see - -             | 27,000,000   | 55,268     | 35,371,520  |
| Shen-see - -             | 18,000,000   | 154,008    | 98,565,120  |
| Kun-fou - -              | 12,000,000   |            |             |
| Se-chuen - -             | 27,000,000   | 166,800    | 106,752,000 |
| Canton - -               | 21,000,000   | 79,456     | 50,851,840  |
| Quang-see - -            | 10,000,000   | 78,250     | 50,080,000  |
| Yu-nan - -               | 8,000,000    | 107,969    | 69,100,160  |
| Kfei-cheou - -           | 9,000,000    | 64,554     | 41,314,560  |
|                          | 333,000,000  | 1,297,999  | 830,719,360 |

How far this table may deserve implicit credit, may be doubted by those who know the difficulty of such researches, even in the most enlightened countries of Europe. It is more probable from the calculations in Neuhoft's travels, that the population is about 230,000,000.

As the Chinese laws permit no native to leave his country, there can be no colonies properly so called †.

The army has been computed at 1,000,000 of infantry, and 800,000 cavalry; and the revenues at about thirty-six millions and a half of Tahels, or ounces of silver, or about nine millions sterling; but as rice and other grain are also paid in kind, it may be difficult to estimate the precise amount or relative value compared with European money §.

POLITICAL IMPORTANCE AND RELATIONS.] The political importance and relations of China may be said to be concentrated in itself, as no ex-

\* Recherches, i. 78.

† This identic repetition must be erroneous.

‡ Yet the number of Chinese at Batavia, and other situations in the Oriental Archipelago, many of whom pass as traders to and from their country, shews that there are a little regarded.

§ Sir Geo. Staunton, iii. 300, estimates the revenue at 200,000,000 ounces of silver, which he says is equal to 66,000,000l. sterling; but, valuing the ounce of silver at five shillings, the amount is 30,000,000l.

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ample is known of alliance with any other state. It has been supposed that one European ship would destroy the Chinese navy, and that 10,000 European troops might overrun the empire. Yet its very extent is an obstacle to foreign conquest, and perhaps not less than 100,000 soldiers would be necessary to maintain the quiet subjugation: so that any foreign yoke might prove of very short continuance. Were the Chinese government persuaded of the utility of external relations, an alliance with the English might be adopted, as a protection against maritime outrage, while the Russian power might be divided by connections with the sovereigns of Persia.

## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Education. — Universities. — Cities and Towns. — Edifices. — Roads. — Inland Navigation. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE Chinese being a people in the highest state of civilization, their manners and customs might require a long description, especially as they are extremely different from those of other nations. The limits of this work will only admit a few hints. In visiting the sea ports of China, foreigners have been commonly impressed with the idea of fraud and dishonesty; but it is to be supposed that these bad qualities are not so apparent where there are fewer temptations. The indolence of the upper classes, who are even fed by their servants, and the nastiness of the lower, who eat almost every kind of animal, in whatever way it may have died, are also striking defects, though the latter may be occasioned by dire necessity in so populous a country. To the same cause may be imputed the exposition of infants. On the other hand the character of the Chinese is mild and tranquil, and universal affability is very rarely interrupted by the slightest tincture of harshness or passion. These qualities may be partly imputed to the vigilant eye of the patriarchal government, and partly to strict abstinence from heating foods and intoxicating liquors. The general drink is tea, of which a large vessel is prepared in the morning for the occasional use of the family during the day. Marriages are conducted solely by the will of the parents, and polygamy is allowed. The bride is purchased by a present to her parents, and is never seen by her husband till after the ceremony. It is not permitted to bury in cities or towns, and the sepulchres are commonly on barren hills and mountains, where there is no chance that agriculture will disturb the bones of the dead. The colour of mourning is white, that personal neglect or forgetfulness may appear in its squalor; and it ought on solemn occasions to continue for three years, but seldom exceeds twenty-seven months\*. The walls of the houses are sometimes of brick, or of hardened clay, but more commonly of wood; and they generally consist only of a ground floor, though in those of merchants there be sometimes a second story, which forms the warehouse. The houses are ornamented with columns, and open galleries, but the articles of furniture are few. The dress is long with large sleeves, and a flowing girdle of silk. The shirt and drawers vary according to the seasons, and in winter the use of furs is general, from

\* Du Halde, iii. 146.

the skin of the sheep to that of the ermine. The head is covered with a small hat in the form of a funnel, but this varies among the superior classes, whose rank is distinguished by a large bead on the top, diversified in colour according to the quality. The dress is in general simple and uniform; and on the audience given to Lord Macartney that of the emperor was only distinguished by one large pearl in his bonnet. The chief amusements of the Chinese seem to be dramatic exhibitions, fire works, in which they excel all other nations, and feats of deception and dexterity.

LANGUAGE.] The language is esteemed the most singular on the face of the globe. Almost every syllable constitutes a word, and there are scarcely 1,500 distinct sounds; yet in the written language there are at least 80,000 characters, or different forms of letters, so that every sound may have about 50 senses\*. The leading characters are denominated keys, which are not of difficult acquisition. The language seems originally to have been hieroglyphical; but afterwards the sound alone was considered. Abstract terms are expressed as usual, by relative ideas; thus *virtue*, which in Latin implies strength, among the Chinese signifies filial piety; the early prevalence of knowledge in China excluding mere strength from any meritorious claim.

EDUCATION.] The schools of education are numerous, but the children of the poor are chiefly taught to follow the business of their fathers. In a Chinese treatise of education published by Du Halde, the following are recommended as the chief topics. 1. The six virtues, namely, prudence, piety, wisdom, equity, fidelity, concord. 2. The six laudable actions, to wit, obedience to parents, love to brothers, harmony with relations, affection for neighbours, sincerity with friends, and mercy with regard to the poor and unhappy. 3. The six essential points of knowledge, that of religious rites, music, archery, horsemanship, writing, and accounts. Such a plan is certainly more useful than the acquisition of dead languages.

CITIES AND TOWNS.] The chief cities of China are Pekin and Nankin, or the northern and southern courts, the former being the Cambula, or city of the Chan, in writings of the middle ages, the capital of Cathay, as Nankin was of Mangi. Pekin occupies a large space of ground; but the streets are wide, and the houses seldom exceed one story. The length of what is called the Tatar city is about four miles, and the suburbs are considerable †. By the best information which the recent embassy could procure, the population was computed at 3,000,000. The houses indeed are neither large nor numerous; but it is common to find three generations with all their wives and children under one roof, as they eat in common, and one room contains many beds. The neatness of the houses and various repletion of the shops, delight the eye of the visitor. At Pekin the grand examinations take place, which confer the highest degree in literature, or in other words the chief offices in government. Excessive wealth or poverty seem equally unknown, as there is no right of primogeniture, and no hereditary dignity; and there are properly but three classes of men in China, men of letters from among whom the mandarins are selected; cultivators of the ground, and mechanics, including merchants ‡. The walls of this capital are of considerable strength and thickness; and the nine gates of no inelegant architecture. Strict police and vigilance are observed, and the streets are crowded with passers

\* Staunton, iii. 418.

† Ib. ii. 297.

‡ Ib. ii. 329. But the military must be regarded as a fourth class.

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Nankin, which was the residence of the court till the fifteenth century, is a yet more extensive city than Pekin, and is reputed the largest in the empire. The walls are said to be about 17 British miles in circumference.

The chief edifices are the gates, with a few temples; and a celebrated tower clothed with porcelain, about 200 feet in height. Such towers were styled pagodas by the Portuguese, who supposed them to be temples; but they seem to have been chiefly erected as memorials, or as ornaments, like the Grecian and Roman columns.

To the European reader one of the most interesting cities is Canton, which is said to contain a million and a half of inhabitants; numerous families residing in barks on the river. The European factories with their national flags, are no small ornaments to this city. The chief export is that of tea, of which it is said that about 13,000,000 of pounds weight are consumed by Great Britain and her dependencies, and about 5,000,000 by the rest of Europe. The imports from England, chiefly woollens, with lead, tin, furs, and other articles, are supposed to exceed a million; and the exports a million and a half, besides the trade between China and her possessions in Hindostan. Other nations carry to Canton the value of about 200,000*l.* and return with articles to the value of about 600,000*l.* So that the balance in favour of China may be computed at a million sterling.

The other large cities of China are almost innumerable; and many of the villages are of a surprising size. Of the cities, Singan is by some accounts equal to Pekin. In general the plan and fortifications are similar; and a strong garrison is carefully maintained.

[EDIFICES.] The most striking and peculiar edifices in China are the pagodas or towers, already mentioned, which sometimes rise to the height of nine stories, of more than twenty feet each. The temples, on the contrary, are commonly low buildings, always open to the devout worshippers of polytheism. The whole style of Chinese architecture is well known to be singular, and is displayed with the greatest splendour in the imperial palace at Pekin.

[ROADS.] The roads are generally kept in excellent order, with convenient bridges. That near the capital is thus described by Sir George Staunton: "This road forms a magnificent avenue to Pekin for persons and commodities bound for that capital, from the east and from the south. It is perfectly level; the centre, to the width of about twenty feet, is paved with flags of granite, brought from a considerable distance, and of size from six to sixteen feet in length, and about four feet broad. On each side of this granite pavement is a road unpaved, wide enough for carriages to cross upon it. The road was bordered in many places with trees."

[ISLAND NAVIGATION.] The canals of China have long excited the envy and wonder of other nations. As the two grand rivers Hoanho and Yangtze bend their course from west to east, the chief object was to intersect the empire from north to south; which was in great measure accomplished by the imperial canal. This wonderful work, which in utility and labour exceeds the enormous wall, is said to have been begun in the tenth century of the Christian era, 30,000 men having been employed for 43 years in its completion.

"This great work differs much from the canals of Europe, which are generally protracted in straight lines, within narrow bounds, and without a current; whereas that of China is winding often in its course, of unequal, and sometimes considerable width, and its waters are seldom stagnant.

"The ground which intervened between this bed of the artificial river, and that of the Eu-ho, was cut down to the depth of about 30 feet, in order to permit the waters of the former to flow with a gentle current into the latter. Their descent is afterwards checked occasionally by flood-gates thrown across the canal, wherever they were judged to be necessary. This canal has no locks like those of Europe. The flood-gates are simple in their construction, easily managed, and kept in repair at a trifling expence. They consist merely of a few planks let down separately one upon another, by grooves cut into the sides of the two solid abutments or piers of stone that project, one from each bank, leaving a space in the middle just wide enough to admit a passage for the largest vessels employed upon the canal. As few parts of it are entirely level, the use of these flood-gates, assisted by others cut through its banks, is to regulate the quantity of water in the canal. Some skill is required to be exerted, in order to direct the barges through them without accident. For this purpose a great oar projects from the bow of the vessel, by which one of the crew conducts her with the greatest nicety. Men are also stationed on each pier, with fenders made of skins stuffed with hair, to prevent the effect of the vessels striking immediately against the stone, in their quick passage through the gates.

"Light bridges of timber are thrown across those piers, which are easily withdrawn whenever vessels are about to pass underneath. The flood-gates are only opened at certain stated hours, when all the vessels collected near them in the interval pass through, on paying a small toll, appropriated to the purpose of keeping in repair the flood-gates and banks of the canal. The loss of water occasioned by the opening of the flood-gate is not very considerable, and is soon supplied by streams conducted into the canal from the adjacent country on both sides \*."

The same author describes this canal as beginning at Lin-sin-choo, where it joins the river Eu-ho, and extending to Han-choo-soo, in an irregular line of about 500 miles; where it joins the Hoan-ho, or Yellow River, till it is about three quarters of a mile in breadth. In the south the river Kan-Kian, which runs from S. W. to N. E. supplies a very considerable part of the navigation.

To enumerate the other canals of China would be infinite, as there is a large canal in every province, with branches leading to most of the towns and villages.

**MANUFACTURES AND COMMERCE.]** The manufactures of China are so multifarious as to embrace almost every article of industry. The most noted manufacture is that of porcelain, and is followed in trade by that of silk, cotton, paper, &c. The porcelain of China has been celebrated from remote ages, and is chiefly prepared from a pure white clay called kaolin; while the petunsi is understood to be a decayed felspar. Some writers add soap rock, and gypsum †.

The internal commerce of China is immense, but the external trade is unimportant, considering the vastness of the empire; a scanty intercourse exists with Russia and Japan: but the chief export is that of tea, which is sent to England to the value of about one million yearly.

\* Sir G. Staunton, iii. 204.

† Ib. iii. 200.

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## CHAPTER IV.

## NATURAL GEOGRAPHY.

*Climate and Seasons.*—*Face of the Country.*—*Soil and Agriculture.*—*Rivers.*—*Lakes.*—*Mountains.*—*Forests.*—*Botany.*—*Zoology.*—*Mineralogy.*—*Mineral Waters.*—*Natural Curiosities.*

CLIMATE AND SEASONS.] THE European intercourse with China being chiefly confined to the southern part of the empire, the climate is generally considered as hot, whereas the northern part of this extensive country is liable to all the rigours of the European winter\*. At Pekin such is the effect of the great range of Tatarian, or rather Manchurian mountains covered with perpetual snow, that the average degree of the thermometer is under 20° in the night during the winter months; and even in the day it is considerably below the freezing point. In so wide an empire, such a diversity of climate and seasons must occur that no general description can suffice.

FACE OF THE COUNTRY.] The face of the country is infinitely diversified; and though in a general view it be flat and fertile, and intersected with numerous large rivers and canals, yet there are chains of granitic mountains and other districts of a wild and savage nature. Cultivation has however considerably reduced the number and extent of such features, whence the natives seek to diversify the sameness of improvement by introducing them in miniature into their gardens. In general the appearance of the country is rendered singularly picturesque by the peculiar style of the buildings, and uncommon form of the trees and plants.

The soil is various, and agriculture by the account of all travellers is carried to the utmost degree of perfection. The emperor himself sets an annual example of the veneration due to agriculture, the first and most important province of human industry. Sir George Staunton thus expresses his ideas of Chinese agriculture†:

"Where the face of the hill or mountain is not nearly perpendicular to the level surface of the earth, the slope is converted into a number of terraces one above another: each of which is supported by mounds of stone. By this management it is not uncommon to see the whole face of a mountain completely cultivated to the summit. These stages are not confined to the culture of any particular vegetable. Pulse, grain, yams, sweet potatoes, onions, carrots, turnips, and a variety of other culinary plants are produced upon them. A reservoir is sunk in the top of the mountain. The rain-water collected in it is conveyed by channels successively to the different terraces, placed upon the mountain's sides. In spots too rugged, barren, steep, or high for raising other plants, the camellia *sefanqua*, and divers firs, particularly the larch, are cultivated with success.

"The collection of manure is an object of so much attention with the Chinese, that a prodigious number of old men and women, as well as of children, incapable of much other labour, are constantly employed about the streets, public roads, banks of canals, and rivers, with baskets tied before them, and holding in their hands small wooden rakes to pick up the dung of animals and offals of any kind that may answer the purpose

\* Staunton, iii. 157.

† Ibid, iii. 606.



of manure ; but above all others, except the dung of fowls, the Chinese farmers prefer night soil. This manure is mixed sparingly with a portion of stiff loamy earth, and formed into cakes dried afterwards in the sun. In this state it sometimes becomes an object of commerce, and is sold to farmers, who never employ it in a compact state. Their first care is to construct large cisterns for containing, besides those cakes and dung of every kind, all sorts of vegetable matter, as leaves or roots or stems of plants, mud from the canals, and offals of animals, even to the shavings collected by the barbers. With all these they mix as much animal water as can be collected, or of common water as will dilute the whole ; and in this state, generally in the act of putrid fermentation, they apply it to the ploughed or broken earth.

"The quantity of manure thus collected must however be still inadequate to that of the cultured ground, which bears so vast a proportion to the whole surface of the country. It is reserved therefore in the first instance, for the purpose of procuring a quick succession of culinary vegetables, and for forcing the production of flowers and fruit. Among the vegetables raised most generally, and in the greatest quantities, is a kind of cabbage, called by the Chinese pe-tsai, or white herb, which is of a delicate taste, somewhat resembling cos-lettuce, and is much relished in China by foreigners as well as natives. This vegetable, and rice, together with a relish of garlic or of onions, in room of animal food, and followed by a little infusion of coarse tea, serve often as a meal for a Chinese peasant or mechanic. The Chinese husbandman always sows the seeds he intends to sow in liquid manure, until they swell, and germination begins to appear : which experience, he says, has taught him to have the effect of hastening the growth of plants, as well as of defending them against the insects hidden in the ground in which the seeds were sown.

"The great object of Chinese agriculture, the production of grain, is generally obtained with little manure, and without letting the land lie fallow. Irrigation is practised to a very great extent. The husbandry is singularly neat, and not a weed is to be seen."

**RIVERS.]** In describing the rivers of this great empire two are well known to deserve particular attention, namely, the Hoan-ho and the Kian-ku. The sources of the first, also called the Yellow River, from the quantity of mud which it devolves, are two lakes, situated amongst the mountains of that part of T'atary known by the name of Kokenor. They lie about the 35° of north latitude, and 19° of longitude, to the westward of Peking, being, according to Arrowsmith's map of Asia, about 97° east from Greenwich\*. This prodigious river is extremely winding and devious in its course, pursuing a N.E. direction to about the 42° of north latitude, and after running due east it suddenly bends south to a latitude nearly parallel to its source, and pursues an easterly direction till it be lost in the Yellow Sea. Its comparative course may be estimated at about 1,800 British miles ; or, according to the late embassy, 2,150. At about 70 miles from the sea where it is crossed by the imperial canal, the breadth is little more than a mile, and the depth only about nine or ten feet ; but the velocity equals seven or eight miles in the hour †.

The Kian-ku rises in the vicinity of the sources of the Hoan-ho ; but according to the received accounts and maps about 200 miles farther to the west, and winds nearly as far to the south as the Hoan-ho does to the north. After washing the walls of Nankin it enters the sea about 100

\* Staunton, iii. 322.

† Ib. iii. 324.

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miles to the south of the Hoan-ho. The Kian-ku is known by various names through its long progress; and near its source is called by the Eluts Porticho, or Petchow; the course is about equal to that of the former, these two rivers being considered as the longest on the face of the globe; they certainly equal, if they do not exceed, the famous river of the Amazons in South America, and the majestic course of the Ganges does not extend half the length. In the late embassy the length of the Kian-ku is estimated at about 2,200 miles; and it is observed that these two great Chinese rivers, taking their source from the same mountains, and passing almost close to each other in a particular spot, afterwards separate from each other to the distance of  $15^{\circ}$  of latitude, or about 1,050 British miles; finally discharge themselves into the same sea, comprehending a tract of land of about 1000 miles in length, which they greatly contribute to fertilize.

To these grand rivers many important streams are tributary, but it would be infinite to enumerate the various waters which enrich and adorn this wide empire.

**LAKES.]** Nor is China destitute of noble and extensive lakes. Du Halde informs us that the lake of Tong-tint-how, in the province of Hou-quang, is more than 80 leagues in circumference. That of Poyang-hou, in the province of Kiang-Si, is about 30 leagues in circumference, and is formed by the confluence of four rivers as large as the Loire. There is also a considerable lake not far to the south of Nankin, called Tai-how. Some of these are described in the late embassy. Upon a lake near the imperial canal were observed thousands of small boats and rafts, constructed for a singular species of fishery. "On each boat or raft are ten or a dozen birds, which, at a signal from the owner, plunge into the water; and it is astonishing to see the enormous size of fish with which they return grasped within their bills. They appear to be so well trained, that it did not require either ring or cord about their throats, to prevent them from swallowing any portion of their prey, except what the master was pleased to return to them for encouragement and food. The boat used by these fishermen is of a remarkably light make, and is often carried to the lake, together with the fishing-birds, by the men who are there to be supported by it."

**MOUNTAINS.]** Concerning the extensive ranges of Chinese mountains, no general and accurate information has yet been given. Du Halde's ample description of the Chinese empire only informs us that some abound with mines of silver, others produce marble and crystal, while some supply medicinal herbs. From the same author we learn that the provinces of Yunnan, Koeitchou, Setchuen, and Fokien, are so mountainous as greatly to impede their cultivation; and that of Tchekiang has dreadful mountains on the west. In the province of Kiangnan there is a district full of high mountains, which also abound in the provinces of Chenfi and of Shanfi. This imperfect information is little enlarged by the account published of the late embassy; and perhaps Mr. Arrowsmith's recent map of Asia, contains as authentic information as can be procured concerning the course and extent of the Chinese mountains. It hence appears that a considerable branch extends from those in central Asia, running south to the river Hoan-ho. Two grand ranges running E. and W., intersect the centre of the empire, seemingly continuations of the enormous chains of Tibet. In the southern part of China the principal ridges appear to run from N. to S.

**FORESTS.]** Such is the cultivation diffused throughout China, that few forests remain, except in the mountainous districts. Near the royal palaces

laces there are indeed forests of great extent, but they rather bear the appearance of art than of nature.

**BOTANY.]** The number of Europeans who have been allowed to visit the interior of China is so small, and those to whom this privilege has been granted having objects of more urgency to attend to than the indigenous plants of this vast empire, we are as yet only in possession of some scattered fragments of the Chinese flora. The neighbourhood of Canton has been surveyed by Osbeck, and a meagre list of plants is to be found in Staunton's account of the English embassy there. These are almost the only authentic sources that have been hitherto opened, and are calculated rather to excite than to satisfy the botanical inquirer.

Among the trees and larger shrubs we find particularized the *thuya orientalis*, an elegant evergreen; the camphor tree, whose wood makes an excellent and durable timber, and from the roots of which that fragrant substance camphor is procured by distillation; the oleander-leaved euphorbia, a large shrub used as a material for hedges; the tallow tree, from the fruit of which a green wax is procured that is manufactured into candles; the spreading banyan tree, growing among loose rocks; the weeping willow; Spanish chestnut, and the larch. Of the fruit trees the following are the principal: China orange; the plantain tree; the tamarind; the white and paper mulberry tree; the former of these is principally cultivated for the use of its leaves, on which the silk worms are fed; and of the bark of the latter, paper and a kind of cloth are made. Nor must the two species of the tea tree be left unnoticed, whose leaves constitute so large a proportion of the European trade with China.

Several beautiful plants grow wild in the hedges, such as the globe amaranth; the balsam; and that elegant climber *ipomea quamoclit*.

**ZOOLOGY.]** There are few animals peculiar to the Chinese territory. Du Halde asserts that the lion is a stranger to this country, but there are tigers, buffaloes, wild boars, bears, rhinoceroses, camels, deer, &c. \* The musk deer is a singular animal of China as well as Tibet. Among the birds are remarkable for their beautiful forms and colours, in which they are rivalled by a variety of moths and butterflies.

**MINERALOGY.]** Among the metals, lead and tin seem to be the rarest. China possesses mines of gold, silver, iron, white copper, common copper and mercury, together with lapis lazuli, jasper, rock crystal, load stone, granite, porphyry, and various marbles. According to some, rubies are found in China; but others assert that they come from Ava.

In many of the northern provinces coal is found in abundance. The common people generally use it pounded with water, and dried in the form of cakes.

Pekin is supplied from high mountains in the vicinity, and the mines seem inexhaustible, though the coal be in general use.

Mines of silver are abundant, but little worked, from an apprehension of impeding the progress of agriculture. The gold is chiefly derived from the sands of certain mountains, situated in the western part of the provinces of Szechuen and Yunnan, towards the frontiers of Tibet. That precious metal is seldom used except by the gilders, the emperor alone having solid vessels of gold.

Tutenag, which is a native mixture of zinc and iron, seems to be a peculiar product of China, and in the province of Houquang there was a mine which yielded many hundred weight in the course of a few days.

The copper of Yunnan, and other provinces, supplies the small coin

\* Staunton, ii. 84. i. 92.

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current through the empire ; but there is a singular copper, of a white colour, called by the Chinese *petong*, which deserves particular notice. This metal must not be confounded with the *tutenag*, an error not unfrequent. It is indeed sometimes mingled with *tutenag* to render it softer.

## CHINESE ISLANDS.

Numerous isles are scattered along the southern and eastern coast of China, the largest being those of Taiwan, also called Formosa, and that of Hainan. Formosa is a recent acquisition of the Chinese in the latter end of the seventeenth century ; the natives being by the Chinese accounts little better than savages. It is divided from north to south by mountains, and the chief Chinese possessions are in the western part.

The southern part of Hainan is mountainous, but the northern more level, and productive of rice. In the centre there are mines of gold ; and on the shores are found small blue fishes, which the Chinese esteem more than those which we call gold and silver fish ; but they only survive a few days when confined to a small quantity of water.

The isles of Leoo-keoo, between Formosa and Japan, constitute a little civilized kingdom, tributary to China. These isles are said to be thirty-six in number, but very inconsiderable, except the chief, which is properly and peculiarly called Leoo-keoo ; by the Chinese accounts the length of it is about 125 British miles, nearly twice the extent which is assigned in recent maps. These isles were discovered by the Chinese in the seventh century ; but it was not till the fourteenth that they became tributary to China. The emperor Kiang-hi, about A.D. 1720, ordered a temple to be erected to Confucius in the chief island, with a literary college. The language is said to differ from that of China or Japan ; but the civilization seems to have proceeded from the latter country, as the Japanese characters are commonly used. The people are mild, affable, gay, and temperate ; and the chief products are sulphur, copper, tin, with shells, and mother of pearl.

## PART II.

## CHINESE TATARY.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Names. — Extent. — Boundaries. — Original Population. — Progressive Geography. — Historical Epochs and Antiquities.*

NAMES.] THE vulgar name of Tartary, or more properly Tatar\*, was originally extended over the vast regions lying between Tibet, China, and the Arctic ocean ; and from the Black Sea in the west to the utmost bounds of north-eastern discovery in Asia. As

\* Such is the Oriental orthography.

more precise knowledge has arisen, the northern part has acquired the name of Siberia, while the southern, in some maps of recent date, is known by the appellations of Western and Eastern Tataria. Yet even in this part, which might more properly be styled Central Asia, the Tatars, properly so denominated, are few; the most numerous tribes being Monguls in the west, and Mandshurs in the east.

This extensive region might therefore more properly be called Mongolia, as the greater number of tribes are Monguls; or the western part might be styled Tataria, the middle Mongolia, and the eastern Mandshuria. The two latter are the objects of the present description; as that of Independent Tataria will be found after the account of Persia, with which it has (as now limited) in all ages been connected.

EXTENT.] This wide and interesting portion of Asia, which has repeatedly sent forth its swarms to deluge the arts and civilization of Europe, extends from the  $72^{\circ}$  of longitude east from Greenwich to the  $145^{\circ}$ , a space of not less than  $73^{\circ}$  of longitude, which, at the medial latitude of  $45^{\circ}$ , will yield about 3,100 geographical miles. The breadth from the northern frontier of Tibet to the Russian confines is about 18 degrees, or 1,080 geographical miles. The boundary towards Russia has been already described. The eastern boundary is the sea, while the southern extends along the great Chinese wall, and the northern limits of Tibet. The western boundary is supplied by the celebrated mountains of Belur Tag, or the Cloudy Mountains, which divide the Chinese empire from Balk, and the Greater Bucharia; while the range on the west of the lake Palkati separates the Kalmucs, subject to China, from the Kirguses of Independent Tataria.

ORIGINAL POPULATION.] The original population of central Asia appears to have been indigeneal, so far as the most ancient records extend. Part of the west was held by the Scythæ of antiquity, seemingly a Gothic race, who were subdued or expelled by the Tatars or Huns from the east, pressed on the other side by the Monguls. Beyond the latter were the Mandshurs, who, though inferior to the Monguls in power, yet retained their ancient possessions, and in the seventeenth century conquered China. At present the chief inhabitants are the Mandshurs of the eastern provinces; with the tribes denominated Kalkas, Eluts, and Kalmucs, who are Monguls. The information concerning central Asia is indeed very lame and defective; and though the late Russian travellers afford a few hints, yet the jealousy of the Chinese, and other causes, have contributed to prolong our ignorance concerning this interesting region.

PROGRESSIVE GEOGRAPHY.] Though Ptolemy has laid down, with some degree of accuracy, the country of the Seres, or Little Bucharia, the progressive geography of central Asia may be said to commence with the travels of Marco Polo, in the end of the thirteenth century. This writer is justly regarded as the father of Tataric geography, and his description of the countries to the north of Tibet is not a little interesting.

The more recent accounts, among which may be mentioned the travels of Gerbillon, published by Du Halde, and those of Bell, with some hints of Pallas, may be said to embrace but small portions of this vast territory\*. The imperfect state of knowledge concerning this country may be imagined, when even D'Anville has been obliged to have recourse to Marco Polo!

\* The notes to the *Histoire Généalogique des Tatars*, Leyde, 1726, 8vo. must not be forgotten amidst the few materials.

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**HISTORICAL EPOCHS.]** The chief historical epochs of this part of Asia may perhaps be more certainly traced in the Chinese annals, than in any other documents. The first appearance of the Huns or Tatars may be observed in the pages of Roman history. The annals of the Monguls, the most important nation, faintly illuminates the pages of Abulgasi, whence it would appear that prior to Zingis there was only one celebrated chan named Oguz, who seems to have flourished about the 130th year of the Christian era. The reigns of Zingis and Timur are sufficiently known in general history; but the divisions of their conquests, and the dissensions of their successors have now almost annihilated the power of the Monguls, who being partly subject to China, and partly to Russia, it is scarcely conceivable that they can again disturb the peace of their neighbours.

**ANTIQUITIES.]** Few antiquities remain to illustrate the power of the Monguls; but it is probable that when this region shall be more fully explored by travellers, several tombs, temples, and other remains of antiquity may be discovered.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Government. — Laws. — Population. — Army. — Political Importance and Relations.*

**RELIGION.]** THE religion most universally diffused in this part of Asia is what has been called Shamanism, or the belief in a supreme author of nature, who governs the universe by the agency of numerous inferior spirits of great power. The Kalkas were accustomed to acknowledge a living Lama, or great spirit embodied; a form of superstition which will be better illustrated in the account of Tibet.

**GOVERNMENT.]** The government was formerly monarchical, with a strong mixture of aristocracy, and even of democracy. At present it is conducted by princes who pay homage to the Chinese empire, and receive Chinese titles of honour; but many of the ancient forms are retained. Though writing be not unknown among the Monguls, yet the laws appear to be chiefly traditional.

**POPULATION.]** Of the population of these regions it is difficult to form any precise ideas. As the numerous tribes subject to Russia are found, under splendid appellations, to present but a slender number of individuals, not exceeding two or three millions, it may perhaps be reasonable to infer that amidst the wide deserts and barren mountains of central Asia there do not inhabit above six millions.

**DIVISIONS.]** The country of the Mandshurs is by the Chinese divided into three great governments. 1. That of Chinyang comprising Leao-dong, surrounded in part by a strong barrier of wood. The chief town is Chinyang, also called Mugden by the Mandshurs, still a considerable place, with a mausoleum of Kunchi, regarded as the conqueror of China, and the founder of the reigning family\*. 2. The government of Kiren-Oula, which extends far to the N.E., where there are many forests and deserts on both sides of the great river Sagalien. Kiren the capital

\* La Croix, li. 291.



stands on the river Songari, which falls into the Sagalien or Amur, and was the residence of the Mandshur general, who acted as viceroy.\* 3. The government of Titchicar, so called from a town recently founded on the Nonni Oula, where a Chinese garrison is stationed. The Russians call this province Daouria, from the tribe Tagouri, who possess a great part of this territory. The western boundary is the river Argoon, the frontier between Russia and China. These provinces having been the seat of the Mandshur monarchy before the conquest of China, have since that event remained subject to their ancient sovereigns.

In this division may also be mentioned Corea, which has for many centuries acknowledged the authority of China, and which boasts a considerable population.

To the west are various tribes of Monguls, as the Kalkas, those around Koko Nor, or the Blue Lake, who are also called Clets, Eluts, or Kalmucs, the terms only implying particular Mongul branches. The Eluts have been greatly reduced by two destructive wars against the Chinese in 1720 and 1757; and their contaish, or great chan, has disappeared. Their country may be considered under three divisions. 1. That part called Gete even in the time of Timur, which some regard as the country of the ancient Massagetæ, towards the lakes of Palkati, Balkash or Tengis, and Zaizan. 2. Little Bucharia, so called to distinguish it from the Greater Bucharia, which is subject to the Usbecs, a Tataric nation: put the people of Little Bucharia are an industrious race of a distinct origin, who are little mingled with their Kalmuc or Mongul lords. 3. The countries of Turfan, to the north of the lake called Lok Nor, and that of Chamil or Hami to the east, regions little known, and surrounded with wide deserts. Upon the whole it may perhaps be found that the Mandshurs are the most populous race, and that the Monguls, though diffused through a vast territory, can hardly boast the name of a nation. The Kirguses, or Tatars proper of the west, are confined to a small and unfertile district; and may more properly be considered as belonging to Independent Tatory.

**ARMY.]** It is probable that this part of the Chinese empire might muster a large but ineffectual army; and amidst modern tactics and weapons, little needs be apprehended from a new deluge of Mongul barbarians. Besides, their interests are now so various and discordant, that while the empires of Russia and China exist, they can only be regarded as connected with the policy of these powerful states.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs.—Language.—Literature.—Cities and Towns.—Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the Monguls have been already briefly described in the account of Asiatic Russia.

\* Du Halde, iv. 7.

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\* Histoire des Tat  
† In the Mandshu  
Halde, iv. 530. P  
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Daria a river.

‡ Du Halde, iv. 1



The Mandshurs, who here deserve particular notice, are little distinguishable in their manners from the Monguls. By the account of the Jesuits they have no temples, nor idols, but worship a supreme being, whom they style emperor of heaven. But probably their real creed is Shamanism, or a kind of rational polytheism.

LANGUAGE.] The three languages of the Mandshurs, Monguls, and Tatars, radically differ from each other; the former of which appears to be the most learned and perfect of the Tataric idioms.

LITERATURE.] Of the native literature of the Mandshurs little is known, except that a code of laws was drawn up by the order of one of the monarchs, prior it is believed, to the conquest of China. The imported literature by the translation of Chinese works must be considerable.

CITIES AND TOWNS.] This extensive portion of Asia contains several cities and towns, generally constructed of wood, and of little antiquity or duration. These shall be briefly mentioned, passing from the west towards the east.

In Little Bucharia appear the cities of Cashgar, Yarkand, Kotun, and Karia. Cashgar was formerly a remarkable town, giving name to a considerable kingdom, the limits of which nearly corresponded with Little Bucharia\*. This town, though fallen from its ancient splendour, still retains some commerce. Yarkand stands on a river of the same name, which, after a long easterly course, falls into the lake of Lop.

Turfan, the capital of a detached principality, is a considerable town, which used to be frequented by the merchants passing from Persia to China. Hami, Chami, or according to others Chamil, gives name to a small district in the immense desert of Cobi: it is a small but populous place, about half a league in circumference, with two beautiful gates. It stands in a fertile plain, watered by a river, sheltered by hills on the N. Some towns occur farther to the south, but seemingly are only usual stations for tents, the Monguls preferring the Nomadic life.

To the east of the great desert, and near the frontiers of China, several Mongul towns appear in the maps. Coucou seems to be the Couchan of Du Halde, a small town seated on a hill near a river which falls into the Hoan-ho. The others are yet more inconsiderable.

The country of the Mandshurs contains many villages and cities, as Hotun Sagalian Oula, so called from its position on that river, in the country of the Tahouria, modernized Daouria; likewise Titchikar, with Merguen, Petouna, Kirin Oula, and Ningouta. On the north and east of the great river Amur scarcely the vestige of a village appears. Of those here enumerated Petouna or Pedne was, in the time of Du Halde, chiefly inhabited by Mandshur soldiers and exiles, under the command of a lieutenant-general. Ningouta was also the residence of a Mandshur general, and the seat of a considerable trade, particularly in the celebrated plant called ginseng, which abounds in the neighbourhood. Segalian Oula† Hotun signifies the city of the black river, and is the chief Mandshur settlement on that noble stream‡.

The chief city of Corea is Kinkatao, of which we may be said only to know the name,

\* Histoire des Tatars, 388.

† In the Mandshur language Oula signifies a river, as in the Chinese Kiang. Du Halde, iv. 530. Pira implies the same. In the Mongul Muren is a river; Alin a mountain, also Tabahan; Hata is a rock. In the Tatar or Turkish Tag is a mountain, Daria a river.

‡ Du Halde, iv. 19.

**TRADE.]** The principal trade of the Mandshur country consists in ginseng and pearls, found in many rivers which fall into the Amur. Excellent horses may also be classed among the exports. Cashgar was formerly celebrated for mink and gold. Corea also produces gold, silver, iron, beautiful yellow varnish, and white paper, ginseng, with small horses about three feet high, furs, and fossil salt. The other towns are rather stations for merchants than seats of commerce. But the emporia of the Russian trade with China must not be forgotten, being on the Russian side Zuruchaitu, on the river Argoon, and Kiachta: opposite to which, on the Chinese frontier, are correspondent stations erected of wood.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Soil and Agriculture.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**CLIMATE.]** **T**HOUGH the parallel of central Asia corresponds with that of France, and part of Spain, yet the height and snows of the mountainous ridges occasion a degree and continuance of cold little to be expected from other circumstances. In climate and productions it is however far superior to Siberia.

**FACE OF THE COUNTRY.]** The appearance of this extensive region is diversified with all the grand features of nature, extensive chains of mountains, large rivers and lakes; but the most singular feature is that vast elevated plain, supported like a table, by the mountains of Tibet in the south, and Altaian chain in the north, from the mountains of Belur Tag in the west to those that bound the Kalkas in the east. This prodigious plain, the most elevated continuous region on the globe, is intersected by some chains of mountains, and by the vast desert of Cobi or Shamo. Destitute of plants and water, it is dangerous for horses, but is safely passed with camels. This desert extends from about the 80° of E. longitude from Greenwich to about the 110th°, being 30° of longitude, which in the latitude of 40°, may be 1,380 geographical miles: but in this wide extent are Oases, or fertile spots, and even considerable regions. On the other hand, the main desert sends forth several barren branches in various directions.

**AGRICULTURE.]** Among the southern Mandshurs, and the people of Little Bucharia, agriculture is not wholly neglected, nor is wheat an unknown harvest. The soil of so extensive a portion of the earth may be supposed to be infinitely various; but the predominating substance is black sand.

**RIVERS.]** The most important river is that called by the Russians the Amur, by the Mandshurs Sagalian Oula. The Amur is deservedly classed among the largest rivers; rising near the Yablonoi mountains, where it is first known by the names of Kerlon and Argoon, and pursuing an easterly course of about 1,850 British miles. The Amur is the grand receptacle of the Mandshur streams, among which the most considerable is the Songari, which itself receives the large river Nonni. The Russian waters of Selinga and Irtysh also pervade a part of central Asia. The river of Yarkand has a considerable course before it enters the lake

of Lop. The Tataric history.

**LAKES.]** Some of Tengis, and 2 Koko Nor, by some name to a tribe of which by the Man

**MOUNTAINS.]** Asia have never been received extensive chain called Imaus of the natives, run

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The great rivers opposite direction in the summits of which celtive terraces. Ticular sides, and fr snows, and give sou terrible noise amid perpetual snow; an those that flow into which runs into Mo There are some fuvation and sandy soil of Africa.

**BOTANY.]** Of the vast territories of ner totally ignorant through, much less regions. From their obvious that no trop Asiatic countries, ar counts of a few travel coast of Tatar, are for the most part with a few Siberian the Indian and Siberi band of European vegetation, proceeds in a whence it stretches du and the coast of Man it partakes of the cli vegetable productions features in the floras also that peculiar spec an extensive tract. tainly acquainted with well-known and sing

of Lop. The Ili, which falls into the lake of Balkash, is noted in Tataric history.

**LAKES.]** Some of the lakes are of great extent, as those of Balkash or Tengis, and Zaizan, each about 150 miles in length. Next is the Koko Nor, by some called Hoho Nor, or the Blue Lake, which gives name to a tribe of the Monguls. *Nor* is the Mongul term for a lake, which by the Mandshurs is styled *Omo*.

**MOUNTAINS.]** The vast ranges of mountains which intersect central Asia have never been scientifically described, and few of them have even received extensive and appropriate appellations. On the west the great chain called Imaus by the ancients, the Belur Tag, or Dark Mountains of the natives, runs from N. to S.

In the eastern country of the Mandshurs the ridges of mountains are laid down in the same direction.

The chief difficulties attend those in the centre. Those on the Russian frontier have been well described; but of the northern mountains of Tibet, and the sources of the Ganges, our knowledge remains imperfect. Still fainter light falls on the ridges which run in an easterly and westerly direction to the north of the great desert.

The great rivers of Onon and Argoon, with others that flow in an opposite direction into the Selinga, rise from the high ridge of Sochondo, the summits of which consist of large rocks heaped on each other in successive terraces. There are two vast cavities, or abysses, with perpendicular sides, and small lakes at the bottom, which receive the melting snows, and give source to torrents which precipitate themselves with a terrible noise amidst the disjointed rocks. This ridge is clothed with perpetual snow; and, after dividing the rivers of Russian Daouria from those that flow into the Baikal, passes S.W., and joins an icy chain which runs into Mongolia.

There are some forests near the rivers; but in general the extreme elevation and sandy soil of central Asia render trees as rare as in the deserts of Africa.

**BOTANY.]** Of the botany of the whole central part of Asia, including the vast territories of Chinese Tataria and Tibet, we are as yet in a manner totally ignorant. No European naturalist has ever even passed through, much less explored, the vegetable products of these extensive regions. From their elevated situation, and their rigorous winters, it is obvious that no tropical plants, nor even those of the more temperate Asiatic countries, are to be expected in their flora; and by the vague accounts of a few travellers, combined with the little that we know of the sea coast of Tataria, it would appear that at least the commonest plants are for the most part the same as those of the north of Germany, mingled with a few Siberian species. Hence it seems that the territorial limits of the Indian and Siberian floras are separated from each other by a broad band of European vegetables, which, entering Asia by the Uralian mountains, proceeds in a south east direction as far as the Tatarian borders, whence it stretches due east quite across the continent, to the river Amur, and the coast of Mandshur Tataria. The southern frontier of Tibet, as it partakes of the climate of India, so it resembles this last in some of its vegetable productions, and for the same reason there are many common features in the floras of Siberia, and the north of Tataria. It is probable also that peculiar species, or even genera, may hereafter be found in such an extensive tract. The only indigenous plants that we are as yet certainly acquainted with, except what belong to Siberia, or India, are, that well-known and singular fern the polypodium barometz, called also the

*Scythian lamb*; *panax quinquefolium*, *ginseng*, the favourite drug of China; and *rheum palmatum*, which at least is one of the plants that furnishes the true *rhubarb*.

**ZOOLOGY.]** The zoology of this wide portion of the globe would supply an infinite theme, in which the camel of the desert might appear with the rock goat of the Alps, and the tiger with the ermine. The wild horse, and the wild ass, and a peculiar species of cattle which grunt like swine, are among the most remarkable singularities. The wild horse is generally of a mouse colour, and small, with long sharp ears.

**MINERALOGY.]** The mineralogy of central Asia has been little explored. Gold is found both in the eastern and western regions, and the former are also said to produce tin. As Russian Daouria exhibits so many valuable substances, it is reasonable to conclude that they equally abound in the Chinese territory, if similar skill and industry were exerted in their detection. The mineral waters, and uncommon appearances of nature, have been little investigated.

### ISLAND OF SAGALIAN, OR TCHOKA.

Till this large island was explored by the unfortunate navigator La Perouse, it was supposed to be only a small isle at the mouth of the Amur, the southern extremity being placed by D'Anville about 4°, or 240 geographical miles, to the north of Jesso. By the account and maps of La Perouse it is only divided from Jesso by a narrow strait of about 20 miles in breadth, since called the strait of Perouse. The discovery and account of this large island, which extends from the 46th of latitude to the 54th, or not less than 480 geographical miles in length, by about 80 of medial breadth, is the most important portion of that navigator's voyage. The natives seem to approach to the Tataric form; and the upper lip is commonly tattooed blue. The dress is a loose robe of skins, or quilted nankeen, with a girdle. Their huts, or cabins, are of timber, thatched with grass, with a fire-place in the centre. In the south are found Japanese articles. A little trade seems also known with the Mandshurs and the Russians. The native name of this large island is Tchoka, that used by the Japanese Oku Jesso, perhaps implying Farther Jesso; while the Russians, who only know the northern part, call it the isle of Sagalian, because it is opposite to the large river of that name. The centre is mountainous, and well wooded with pine, willow, oak, and birch; but the shores are level and singularly adapted to agriculture. The people are highly praised by La Perouse as a mild and intelligent race; and he expressly informs us that they are quite unlike the Mandshurs, or Chinese.

*Names. — Extent.*  
*Religion. — Government. — Climate. — Culture. — Soil. — Rivers. — Cities.*

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**NAMES.]** The ... in the country is ... the native appell ... *Pu*, signifying ... of the north\*.

**EXTENT.]** A ... about the 75th to ... 30° may be about ... as extending from ... geographical mile ... examined; but as ... province of Tibe ... Hindoos, and for ... concluded that th ... the Tataric, thou ... Tatars proper.

**BOUNDARIES A** ... the northern bound ... farther than it ap ... Great Tibet to th ... Tibet is divided ... Tibet chiefly comp ... mountains covered ... vices of Shang, ... are Takbo, Cong ... Many of these ... which is considered ... and Tamo. Shan ... Ou contains Lassa ... Ou: and is inhabi

\* Turner, p. v. and  
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## PART III.

## CHINESE EMPIRE.

## TIBET.

*Names. — Extent. — Boundaries and Provinces. — Progressive Geography. — Religion. — Government. — Population. — Manners. — Language and Literature. — Cities and Towns. — Manufactures and Commerce. — Climate and Soil. — Rivers. — Mountains. — Zoology. — Mineralogy. — Natural Curiosities.*

THE account of this interesting country must unfortunately be limited in the topics, as the materials are far from being ample. The recent narrative of Captain Turner's journey shall be selected as the most authentic: but it only embraces a small part, and for the general geography recourse must be had to more antiquated authorities. Tibet, with its numerous independencies, may in fact be still arranged among the *undiscovered* countries in the centre of Asia.

**NAMES.]** The name of *Tibet*, which is probably Hindoo or Persian, is, in the country itself, and in Bengal, pronounced *Tibbet*, or *Tibt*. But the native appellation is *Puë*, or *Puë Kouchim*, said to be derived from *Puë*, signifying northern, and *Koachim*, snow; that is, the snowy region of the north\*.

**EXTENT.]** According to the most recent maps, Tibet extends from about the 75th to the 101st degree of longitude, which in the latitude of 30° may be about 1,350 geographical miles. The breadth may be regarded as extending from the 27th to the 35th degree of latitude, or about 480 geographical miles †. The original population has not been accurately examined; but as the people of Bootan, which is regarded as a southern province of Tibet, are said to differ essentially and radically from the Hindoos, and somewhat to resemble the Chinese, it may perhaps be concluded that they belong to that grand race of men which approaches the Tataric, though they cannot be regarded as Mandshurs, Monguls, or Tatars proper.

**BOUNDARIES AND PROVINCES.]** There is every reason to believe that the northern boundary of this country may be safely extended two degrees farther than it appears in our best maps, in which there is no portion of Great Tibet to the N.E. of Cashmir.

Tibet is divided into three parts. Upper, Middle, and Lower. Upper Tibet chiefly comprises the province of Nagari, full of horrible rocks, and mountains covered with eternal snow. Middle Tibet contains the provinces of Shang, Ou, and Kiang; while the provinces of Lower Tibet are Takbo, Congbo, and Kahang.

Many of these provinces are again subdivided: for instance, Nagari, which is considered as a kingdom of three departments, Sangkar, Pourang, and Tamo. Shang is on the W., bounded by Nipal. The province of Ou contains Lassa, the capital of Tibet. Kiang is to the north-east of Ou: and is inhabited by mingled Tibetans and Monguls, in tents. Ka-

\* Turner, p. v. and 805.

† Probably to 37°, which would add 120 g. miles; for Mus Tag is, according to the Russians, the northern boundary of Tibet; and they place that range in 38°.



hang is in the S.E. bordering on the Birmans, and is divided into twelve departments.

To these must be added the wide region of Amdoa, if it be not the same with Kahang, but it seems more probably to embrace the confines towards China, as the natives are remarkably ingenious, and speak the Chinese language. The country of Hor is situated betwixt Tatar and the provinces of Nagari and Kiang, and seems to be the Hohonor of our maps. Our Bootan is by the natives styled Decpo, or Takbo: all the countries to the west of which, as Moringa, or Morung, Mocampour, Nipal, Gorca, and Kemaon, are not considered as parts of Tibet. The confusion of Chinese, Mongul, and Tibetan appellations, has been a great impediment in the geography of this extensive country; the N.E. part of which was, with the Chinese province of Shenfi, before the great wall was extended in this quarter, the celebrated Tangut of oriental history and geography. On the western side high mountains, covered with perpetual snow, and with all the terrible avalanches and other features of the Swiss Alps, have in all ages prevented the Persians and the conquerors of Bucharica from invading this country; while the deserts in the N.E. have proved ineffectual barriers against the Monguls and Eluts. These western mountains have also prevented travellers from penetrating in that quarter, which is little better known at present than in the time of Ptolemy.

PROGRESSIVE GEOGRAPHY.] The progressive geography of Tibet chiefly dates from a recent period; for there is no room to believe that the snowy mountains of Tibet had been penetrated by the ancients. The Portuguese commerce with the East Indies may be said to have first disclosed this ample region, of which however our knowledge, even at this day, is lamentably defective. Tibet seems to have been the southern part of the Tangut of Marco Polo\*, who describes the province of *Tebeth*, (which he says contained eight kingdoms, with many cities and villages,) as a mountainous country, producing some gold and spices, a large breed of dogs, and excellent falcons.

About 1715, the emperor of China being desirous to obtain a map of Tibet, two lamas were sent who had studied geometry in a mathematical academy†. These lamas drew a map from Sining, in the province of Shenfi, to the sources of the Ganges; which was afterwards examined by the Jesuits, and improved by them, so far as their materials would admit. This map, published in the atlas of Du Halde's works, unfortunately continues almost the sole authority, and is followed, with a few variations, by the most recent geographers. Yet it seems but of doubtful credit; and reasonable suspicions may be entertained from there being no distinct names of small kingdoms, states, or provinces; though from recent accounts these seem particularly to abound in the country; and from the great river Gogra being totally unknown and omitted.

The geography of Asia cannot be said to be complete till we have new and correct maps of the central parts, particularly of Tibet, which may be called the heart of Asia, whence the streams flow into the vast southern regions of that extensive country. The sources of the Ganges and Indus, the Sampoo, and all the prodigious and fertile streams of exterior India, and of China, belong to this interesting region; and must be exactly traced and delineated, before we can have precise and scientific ideas of Asiatic geography.

\* Cap. xxxvi. edit. 1547.

† Du Halde, iv. 371.

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† Turner, p. 306.



**HISTORY.]** The lama of Tibet was probably the Prester John of the middle ages; and this strange appellation was as strangely transferred by Portuguese ignorance to the emperor of Abyssinia. Polo informs us that Tibet had been ravaged by the Monguls, so that in his time it was almost desolate. The quiet succession of the lamas would afford few materials for history; and the petty secular chiefs\* of distinct provinces or kingdoms may perhaps sometimes be traced in the Chinese or Hindoo annals, but would little interest an European reader. As the tombs and monasteries are often constructed of stone, some may remain of remote antiquity. But the idols, cut in the rocks, are little calculated to impress travellers with the idea of much perfection in the arts.

**RELIGION.]** The religion of Tibet seems to be the schismatical offspring of that of the Hindoos†. It is reported to have received its earliest admission in that part of Tibet bordering upon India, (which from hence became the seat of the sovereign lamas;) to have traversed over Mantchieux Tatar, and to have been ultimately disseminated over China and Japan. It still bears a very close affinity with the religion of Brahma in many important particulars, but differs materially in its ritual, or ceremonial worship. Tibetans assemble in chapels, and unite together in prodigious numbers to perform their religious service, which they chant in alternate recitative and chorus, accompanied by an extensive band of loud and powerful instruments; so that these congregations forcibly recal to the recollection both the solemnity and sound of the Roman Catholic masses.

There are also numerous monasteries, containing crowds of *gylongs*, or monks, with a few *annees*, or nuns.

**GOVERNMENT.]** The ruling government is the spiritual, though the lama was accustomed to appoint a *tipa*, or secular regent, a right which has probably passed to the Chinese emperor. In Bootan, generally considered as a province of Tibet, there is a raja, or prince, called Daeb, whose authority however is far from being firm or extensive. The laws must, like the religion, bear some affinity to that of the Hindoos.

**POPULATION.]** No estimate of the population of Tibet seems to have been attempted; but as the country may be said to be wholly mountainous, and the climate excessively cold, even under the 27th degree of latitude, (the influence of mountains being far superior to that of imaginary zones,) the people are thinly scattered, and the number of males far exceeds that of females. From the ease with which the conquest was effected by the Eluts, and other circumstances, it can scarcely be conceived that a monarch of all Tibet could have brought into the field an army of more than 50,000; and allowing that (exclusive of the numerous monks) only every tenth person assumed arms, the population would be half a million, a circumstance which will not surprise those who consider that a few families in central Asia assume the name of a nation. But this number is probably far too small; and it can only be said that the population seems scanty.

**REVENUES.]** The revenues of the lama, and of the secular princes,

\* Yet Tibet was for some time subject to secular kings, called Tſan Pa; and the lama resided at Lassa, with a power similar to that of the spiritual prince of Japan. Those Monguls called Eluts conquered the secular prince, and transferred the whole power to the lama. (Du Haude, iv. 50.) In 1792, the Nipalese having committed great ravages in Tibet, the emperor of China sent an army to protect the lama; in consequence of which the Chinese have established military posts on the frontiers, so that the intercourse between their country and Bengal is now precluded. Turner, 441.

† Turner, p. 306.

seem to be trifling; nor can Tibet ever aspire to any political importance. In a commercial point of view, friendship and free intercourse with Tibet might open new advantages to our settlements in Bengal; and in this design repeated envoys to the lama were sent by Mr. Hastings, a governor who possessed the most enlarged and enlightened mind, and an active attention to the interests of his country.

**CHARACTER, &c.]** Mr. Turner represents the character of the Tibetians as extremely gentle and amiable. The men are generally stout, with something of the Tataric features, and the women of a ruddy brown complexion, heightened like the fruits by the proximity of the sun, while the mountains breezes bestow health and vigour.

"The ceremonies of marriage are neither tedious nor intricate in Tibet\*. Their courtships are carried on with little art, and quickly brought to a conclusion. The priests of Tibet, who shun the society of women, have no share in these ceremonies, or in ratifying the obligation between the parties, which, it seems, is formed indissolubly for life."

It is a remarkable characteristic of the country, that polygamy here assumes a different form from that of other oriental regions: the women being indulged in a plurality of husbands, instead of the reverse. It is the privilege of the elder brother to select a wife, who stands in an equal relation to his other brothers, whatever may be the number †.

Such is the respect paid to the lama, that his body is preserved entire in a shrine; while those of the inferior priests are burnt, and their ashes preserved in little hollow images of metal. But in general the dead bodies are exposed to the beasts and birds of prey, in walled areas; and an annual festival is held, as in Bengal and China, in honour of the dead.

A curious idea of the manners and customs of the Tibetians may be formed from Mr. Turner's account of his interview with the lama, then an infant not capable of speech; for, in the spirit of the eastern metempsychosis, they suppose that the soul of the lama passes from his late body into another, which they discover by infallible marks.

Upon the whole, the Tibetians appear to have made a considerable progress in civilization; but the sciences continue in a state of imperfection; the year, for instance, being lunar, and the month consisting of 29 days.

**LANGUAGE.]** The origins of the Tibetan speech have not been properly investigated. The literature is chiefly of the religious kind, the books being sometimes printed with blocks of wood, on narrow slips of thin paper, fabricated from the fibrous root of a small shrub. In this practice they resemble the Chinese; while the Hindoos engrave their works with a steel stylus upon the recent leaves of the palmyra tree, (*borassus flabelliformis*), affording a fibrous substance, which seems indestructible by vermin ‡. The writing runs from the left to the right, as in the languages of Europe.

The gylongs, or monks, pass through a regular education: and, it is to be supposed, sometimes teach children not destined to religious confinement.

**CITIES AND TOWNS.]** Of the cities and towns of Tibet little is known. The capital is Lassa: and several other names in the southern part assume the character of towns in the maps, though probably mere villages. There being little commerce, there is no middle class of people; but

the transition is  
monastery.

Lassa, the capital, is a small city, but the noted mountain is about seven miles in the native tongue. To the north of the city is covered with snow. of Tibet †.

**EDIFICES.]** As mentioned. Mr. Turner describes three or four hundred stupas, and all of stone, and parapets cover the melting snow. forms a balcony. delineated by Mr. Turner. Bridges occur on chains, drawn from the end, being fixed in projection, till they thus resembling the rocky mountains regenerate after rain.

**MANUFACTURES.]** and some woollen cloth. the fine undermost is chiefly sent to Calcutta of gold dust, diamonds. Many of the Chinese. Tibet sends rock salt return base silver coin. Nipal is also carried and musk. The rephaires, lazulite, jet intercourse; and the internal.

**TRADE.]** The goods produced at the great province of Shensi. There is no mint in prejudices; but the country.

**CLIMATE.]** The climate when compared with even in the former century a remarkable uniform and return. The southern region of Tibet by a variable atmosphere refreshing showers.

\* Turner, p. 352.

† Du Halde and Turner.

‡ Turner, 323.

\* Renne

the transition is rapid, from the miserable hut to the stone palace or monastery.

Lassa, the capital of Tibet, is situated in a spacious plain, being a small city, but the houses are of stone, and are spacious and lofty\*. The noted mountain of Putala, on which stands the palace of the lama, is about seven miles to the east of the city. As *La* means a hill, in the native tongue, this name may imply the hill of Pouta or Boodh. To the north of Lassa appears another vast range of mountains, covered with snow. Lassa is in the province of Ou, and almost in the centre of Tibet†.

**EDIFICES.]** Among the edifices the monasteries may be first mentioned. Mr. Turner describes that of Teshoo Loomboo, as containing three or four hundred houses, inhabited by monks, besides temples, mausoleums, and the palace of the sovereign pontiff. The buildings are all of stone, none less than two stories in height, with flat roofs, and parapets composed of heath and brushwood, probably to emit the melting snow. The centre window projects beyond the wall, and forms a balcony. Some of the palaces and fortresses are described and delineated by Mr. Turner; and the architecture seems respectable. Bridges occur of various fantastic forms; sometimes consisting of chains, drawn from precipice to precipice; sometimes of beams, one end being fixed in the shore, while the other successively increases its projection, till the uppermost timbers support a short passage of planks, thus resembling the upper section of an octagon. The roads amidst the rocky mountains resemble those of Switzerland, and are particularly dangerous after rain.

**MANUFACTURES.]** The chief manufactures of Tibet seem to be shawls, and some woollen cloths; but there is a general want of industry; and the fine undermost hair of the goats, from which shawls are manufactured, is chiefly sent to Cashmir. The principal exports are to China, consisting of gold dust, diamonds, pearls, lamb skins, some musk, and woollen cloths. Many of the Chinese imports are manufactured articles. To Nipal, Tibet sends rock salt, tincal or crude borax, and gold dust; receiving in return base silver coin, copper, rice, and coarse cotton cloths. Through Nipal is also carried on the chief trade with Bengal, in gold dust, tincal, and musk. The returns are broad cloth, spices, trinkets, emeralds, sapphires, lazulite, jet, amber, &c. With Asam in the S. E. there is no intercourse; and the little trade with Bootan may rather be regarded as internal.

**TRADE.]** The trade with China, which is the principal, is chiefly conducted at the garrison town of Sining, in the western extremity of the province of Shenfi, where tea is greedily bought by the Tibetians. There is no mint in Tibet, as such an institution is prevented by religious prejudices; but the base silver of Nipal is current throughout the country.

**CLIMATE.]** The climate of Bootan may be said to be temperate, when compared with that of Tibet Proper; yet the winters are very severe even in the former country. "In the temperature of the seasons in Tibet a remarkable uniformity prevails, as well as in their periodical duration and return. The same division of them takes place here as in the more southern region of Bengal. The spring is marked, from March to May, by a variable atmosphere; heat, thunder storms, and occasionally with refreshing showers. From June to September is the season of humidity,

\* Rennel, 306.

† Bernouilli, iii. 227.

when heavy and continued rains fill the rivers to their brim, which run off from hence with rapidity to assist in inundating Bengal. From October to March a clear and uniform sky succeeds, seldom obscured either by fogs or clouds. For three months of this season a degree of cold is felt, far greater perhaps than is known to prevail in Europe. Its extreme severity is more particularly confined to the southern boundary of Tibet, near that elevated range of mountains which divides it from Afam, Bootan, and Nipal\*."

Thus the distinguishing characteristic of the climate is that extreme dry and parching cold which, under the latitude of 26°, near the torrid zone of antiquated geography, rivals that of the Alps in latitude 46°.

FACE OF THE COUNTRY.] From the same intelligent traveller we learn that Bootan, with all its confused and shapeless mountains, is covered with eternal verdure, and abounds in forests of large and lofty trees†. The sides of the mountains are improved by the hand of industry, and crowned with orchards, fields, and villages. Tibet Proper, on the contrary, exhibits only low rocky hills, without any visible vegetation, or extensive arid plains of an aspect equally stern; while the bleak and cold climate constrains the inhabitants to seek refuge in sheltered vales and hollows, or amidst the warmest aspects of the rocks. Yet Tibet produces great abundance and variety of wild fowl and game; with numerous flocks of sheep and goats, and herds of cattle, and is infested by many beasts of prey; while in Bootan few wild animals are found except monkeys, and a few pheasants. Tibet Proper must indeed be considered as a mineral country, the mountains presenting a peculiar naked aspect, indicative of rich ores.

SOIL.] The nature of the soil here prohibits the progress of agriculture. The vales are commonly laid under water on the approach of winter: in the spring they are ploughed and sown, while frequent showers, and a powerful sun, contribute speedily to mature the crops‡. The autumn being clear and tranquil, the harvest is long left to dry on the ground, and when sufficiently hardened is trod out by cattle. The course of cultivation is wheat, peas, and barley; rice being confined to a more southern soil.

RIVERS.] The chief river of Tibet is, beyond all comparison the Sampoo or Berhampootar, which rising in the western region, from the same lofty mountains that give source to the Ganges, proceeds in an E. and S. E. direction for about the space of 1000 English miles, to the confines of Tibet and Afam, where it bends S. W., and flows into the estuary of the Ganges, after a farther course of about 400 British miles.

The Hoan Ho and Kian Ku of the Chinese also derive their origin from the eastern boundaries of Tibet. Of the other rivers little is known; but the great Japanese river of Cambodia, or Maykaung of Laos; that of Nou Kia, supposed to pass near Martaban into the gulph of Pegu; and the Irrawady of this last country, are all believed to derive their sources from the mountains of Tibet, which may be styled the Alps of Asia. Nor must it be forgotten that another large river, called the Sardjoo or Gagra, which after a course of about 600 miles, nearly parallel on the E. with that of the Ganges, joins it near Chupra, also derives its spring from the lofty western mountains of Tibet.

\* Turner, 300.

† P. 216.

‡ Ib. 334.

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**LAKES.]** These Alpine regions, contain, as usual, many lakes, the most considerable being represented under the name of Terkiri, about 80 British miles in length, and 25 broad. The Chinese lamas have also depicted many other lakes in the northern parts of the country; where there certainly exists one very singular, which yields the tincal or crude borax. Equally uncommon is the lake to the S. of Lassa, which our maps call Jamdro or Palté. This strange lake is represented as a wide trench, of about two leagues broad, every where surrounding an island of about twelve leagues in diameter; if true, a singular feature of nature. Even the smaller lakes in the south of Tibet Proper are in the winter frozen to a great depth.

**MOUNTAINS.]** The vast range of Tibetan mountains have already been repeatedly mentioned; but there is no accurate geographical delineation of their course and extent. Those in the west and south seem to bend in the form of a crescent, from the sources of the Ganges to the frontiers of Afam, in a N. W. and S. E. direction. To the north of Sampoo a parallel and yet higher ridge seems to extend, the northern extremities abounding with large frozen lakes. The chief elevation appears as usual to be central, to the south of the lake Terkiri, being called Koiran.

From these great ranges many branches extend N. and S. as in the Alps, and their names may perhaps be traced, but with little accuracy, in the general map of Tibet, and atlas of the provinces, drawn up by D'Anville from the sketches of the missionaries, and already repeatedly quoted.

**FORESTS.]** Bootan, the southern province of Tibet, abounds with forests containing many European trees, though the oak be wanting; and several peculiar to Asia. Nipal, the adjoining province to the west, probably presents similar features. The high snowy mountains which contain the sources of the Ganges are perhaps barren of vegetation, a character generally applicable to Tibet Proper.

**ZOOLOGY.]** In Bootan few wild animals are observable, except monkeys; but Tibet abounds with game of various descriptions. The horses are of a small size, or what we term ponies, but spirited to a degree of obstinacy. The cattle are also diminutive. The flocks of sheep are numerous, commonly small, with black heads and legs; the wool soft, and the mutton excellent. It is a peculiarity of the country that the latter food is generally eaten raw. When dried in the frosty air it is not disagreeable in this state, to an European palate\*.

The goats are numerous, and celebrated for producing a fine hair, which is manufactured into shawls, and which lies beneath the exterior coarse coat. Nor must the singular breed of cattle be forgotten, called Yak by the Tatars, covered with thick long hair; the tail being peculiarly flowing and glossy, and an article of luxury in the east, where it is used to drive away the flies, and sometimes dried for ornaments. These cattle do not low; but, when uneasy, make a kind of grunting sound, whence the breed is called the *bos grunniens*.

The musk deer delights in intense cold. This valuable animal has two long curved tusks, proceeding downward from the upper jaw, which seem intended to dig roots, his usual food. The figure of the body somewhat resembles the hog, while the hair approaches the quills of the porcupine. The musk, which is only found in the male, is formed in a little tumour at the navel; and is the genuine and

\* Turner, 302.



authentic article so styled, being commonly black, and divided by thin cuticles \*.

The lakes abound with water fowl in the summer, many of which may perhaps be new to zoology; and little is discovered concerning the fish and insects of this singular country.

**MINERALOGY.]** The mineralogy is better known from the account appended to Mr. Turner's Journey in 1783, from which it appears that Bootan does not probably contain any metal except iron, and a small portion of copper; while Tibet Proper, on the contrary, seems to abound with rich minerals. Gold is found in great quantities, sometimes in the form of dust, in the beds of rivers, sometimes in large masses, and irregular veins. There is a lead mine, two days journey from Teshoo Lumboo, the ore being galena. Cinnabar, rich in quicksilver, is also found; and there are strong indications of copper. Rock salt is another product of Tibet. But in general the metals cannot be worked, as there is a complete deficiency of fuel; and coal would be far more precious than gold.

The most peculiar product of Tibet is tincal, or crude borax; concerning which Mr. Sanders, who accompanied Mr. Turner, gives the following interesting information. "The lake from whence tincal and rock salt are collected, is about fifteen days journey from Teshoo Lumboo, and to the northward of it. It is encompassed on all sides by rocky hills, without any brooks or rivulets near at hand; but its waters are supplied by springs, which being saltish to the taste are not used by the natives. The tincal is deposited or formed in the bed of the lake; and those who go to collect it dig it up in large masses, which they afterwards break into small pieces for the convenience of carriage, exposing it to the air to dry. Although tincal has been collected from this lake for a great length of time, the quantity is not perceptibly diminished, and as the cavities made by digging it soon wear out, or fill up, it is an opinion with the people that the formation of fresh tincal is going on. They have never yet met it in dry ground, or high situations, but it is found in the shallowest depths, and the borders of the lake; which deepening gradually from the edges towards the centre, contain too much water to admit of their searching for the tincal conveniently; but from the deepest parts they bring rock salt, which is not to be found in shallows, or near the bank. The waters of the lake rise and fall very little, being supplied by a constant and unvarying source, neither augmented by the influx of any current, nor diminished by any stream running from it. The lake, I was assured, is at least 20 miles in circumference; and, standing in a very bleak situation, is frozen for a great part of the year. The people employed in collecting these salts are obliged to desist from their labour so early as October, on account of the ice. Tincal is used in Tibet for soldering, and to promote the fusion of gold and silver. Rock salt is universally used for all domestic purposes in Tibet, Bootan, and Nipal †."

**MEDICAL WATERS.]** There are many medical waters in various parts of this extensive country; nor is their salutary use unknown to the natives.

\* Turner, 206.

† Ib. 406.

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## JAPAN.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Names. — Extent. — Original Population. — Progressive Geography. — Historical Epochs and Antiquities.*

THE kingdom, or, as it is by some styled, the empire of Japan, has by most geographers been classed among the Asiatic isles, and has in consequence been treated with more brevity than its importance demands, for, excepting China, no existing Asiatic monarchy can aspire to superior rank, or is more calculated to excite rational curiosity from the singularity of its government, abundant population, progress in the arts of life, and peculiar manners of the people. The Japanese islands may in some measure be compared with Great Britain and Ireland, forming a grand insular power near the eastern extremity of Asia, like that of the British isles near the western extremity of Europe. Nor are ample modern materials wanting in the travels of Kämpfer and Thunberg.

**NAMES.]** Marco Polo, the father of modern Asiatic geography, mentions Japan by the name of Zipangri, or Zipangu. The inhabitants themselves call it Nipon or Nifon, and the Chinese Sippon and Jepuen.

**EXTENT.]** This empire extends from the 30th to the 41st degree of N. latitude; and, according to the most recent maps, from the 131st to the 142d degree of E. longitude from Greenwich. Besides many smaller isles, it presents two considerable ones in the S.W., that of Kiufiu (also termed Saikokf, or the western country), and that of Sikokf. But by far the most important island is that of Nipon, to the N.E. of the two former. The geography of Kämpfer has been corrected by recent voyages, according to which the length of Kiufiu from N. to S. is about two degrees, or 140 British miles; the greatest breadth about 90. Sikokf is about 90 British miles in length by half the breadth. The grand isle of Nipon is in length from S. to N.E. not less than 750 British miles; but is so narrow in proportion, that the medial breadth cannot be assumed above 80, though in two projecting parts it may double that number. These islands are divided into provinces and districts, as usual in the most civilized countries.

To the N. of Nipon is another large isle, that of Jessio, or Chicha, which having received some Japanese colonies, is generally regarded as subject to Japan; but being inhabited by a savage people, is rather considered as a foreign conquest than as a part of this civilized empire.

**ORIGINAL POPULATION.]** The original population of Japan has been little illustrated; but the Japanese seem to be a kindred race with the Chinese, though, according to Kämpfer, the languages be radically distinct. But if compared with that of Corea, the nearest land, and the latter with the Chinese, perhaps a gradation might be observable. The Japanese may have migrated from the continent, when both the Chinese

and themselves were in the earliest stages of society; and the complete insular separation may have given rise to a language rendered peculiar by the progress of a distinct civilization.

**PROGRESSIVE GEOGRAPHY.]** Before the account published by Kämpfer, Japan had been imperfectly explored by the Portuguese; and since 1730, the date of Kämpfer's publication, many important improvements have been made.

**HISTORICAL EPOCHS.]** The history of their own country is universally studied by the Japanese; and Kämpfer has produced an elaborate abstract, divided into three epochs, the fabulous, the doubtful, and the certain.

The first is wholly fictitious. The second, or uncertain epoch, is by Kämpfer interwoven with the Chinese history; this part of his work demonstrating that the Japanese themselves at least acknowledge their government and civilization to have been derived from China. Sin Noo, one of these Chinese monarchs, admitted by the Japanese into their annals, is represented with the head of a bull, or with two horns, as having taught the use of agriculture and herds\*; perhaps the simple and natural origin of the Jupiter Ammon, and similar images of classical antiquity.

The third, or certain period, begins with the hereditary succession of the ecclesiastical emperors, from the year 660 before the Christian era, to the year of Christ 1585, during which 107 princes of the same lineage governed Japan. At the last period the secular princes assumed the supreme authority. In general the reigns are pacific; though at very distant intervals the Mandshurs and Coreans occasionally invaded Japan, but were always defeated by the valour of the inhabitants. In the reign of Gouda, the nineteenth Dairi, or spiritual emperor, the Monguls under Mooko attempted a grand invasion of Japan, after having conquered China about fourteen years before. The number of small vessels is exaggerated to 4000, and that of the army to 240,000; and it is probable that numerous Chinese junks contained a formidable army of Monguls. But they were dispersed and almost wholly destroyed by a furious tempest, which the Japanese piously ascribed to the gods their protectors. In 1585 the generals of the crown, or secular emperors, who were also hereditary, assumed the supreme power; the Dairis being afterwards confined, and strictly guarded, that they might not re-assume their ancient authority.

**ANTIQUITIES.]** The temples and palaces being constructed of wood, few monuments of antiquity can remain. Some of the castles of the nobility have walls of earth or stone; but the most ancient relics are probably the coins and idols.

\* Kämpfer, i. 231. French translation.

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## CHAPTER II.

## POLITICAL GEOGRAPHY.

*Religion.—Government.—Laws.—Population.—Colonies.—Army.—Navy.—Revenues.—Political Importance and Relations.*

**RELIGION.]** THE established religion of Japan is a polytheism, joined with the acknowledgment of a supreme creator. There are two principal sects, that of Sinto and that of Budſdo. The first acknowledge a supreme being, far superior to the little claims and worship of men, whence they adore the inferior deities as mediators, the idea of a mediator being indispensable in almost every form of religion. They abstain from animal food, detest bloodshed, and will not touch any dead body\*.

The priests are either secular or monastic; the latter alone being entrusted with the mysteries. The festivals and modes of worship are cheerful, and even gay; for they regard the gods as beings who solely delight in dispensing happiness. Besides the first day of the year, and three or four other grand festivals, the first day of the month is always kept as a holiday. There are several orders of monks and nuns, as in the Roman Catholic system; but human nature is every where the same.

The sect of Budſdo was imported from Hindostan, being the same with that of Budha or Boodh, reported to have been in Ceylon about 1000 years before the birth of Christ. Passing through China and Corea it has been mingled with foreign maxims, but the tenet of the metempsychosis remains: wicked souls being supposed to migrate into the bodies of animals, till they have undergone a due purgation.

Soon after the discovery of this country by the Portuguese, jesuitic missionaries arrived in 1549; and their successors continued to diffuse their doctrine till 1638, when 37,000 Christians were massacred. Several persecutions had formerly taken place, and in 1590 upwards of 20,000 are said to have perished. The pride and avarice of the Portuguese conspired with the vain ambition of the jesuits, (who, not contented with their station, endeavoured to introduce themselves into the governing councils of the nation,) first to contaminate and render odious the religion which they professed, in its pure principles essentially opposite to such views, and afterwards to produce this melancholy catastrophe; the exultance of the Christian faith being through such perversion found incompatible with that of a state otherwise universally tolerant. Since that memorable epoch Christianity has been held in supreme detestation; and the cross, with its other symbols, are annually trampled under foot; but it is a fable that the Dutch are constrained to join in this ceremony.

**GOVERNMENT.]** The Kubo, or secular emperor, is now sole monarch of the country: but till near the end of the seventeenth century the Dairis, pontiffs, or spiritual monarchs, held the supreme authority, being appointed by the high ecclesiastical court according to their laws of succession. Yet occasionally the appointment has been controverted; and Japan has been ravaged by many civil wars. The ecclesiastical dignities were of six orders, some belonging to particular offices, others merely

\* Thunberg, iv. 19.

honorary. The secular prince is accustomed to confer, with the consent of the dairi, two honorary ranks, equivalent to our noblemen and knights. The ecclesiastical court is chiefly occupied with literary pursuits, the dairi residing at Miaco; and his court remains, though not in its former splendour.

The government of each province is intrusted to a resident prince, who is strictly responsible for his administration, his family remaining at the emperor's court as hostages; and he is himself obliged to make an annual appearance, the journey being performed with great pomp, and accompanied with valuable presents. The emperor, as in the feudal times of Europe, derives his chief revenue from his own estate, consisting of five inferior provinces, and some detached towns. Each prince enjoys the revenues of his fief or government, with which he supports his court and military force, repairs the roads and defrays every civil expence. The princes of the first dignity are styled Daimio, those of inferior rank Siomio. They are generally hereditary, but the Siomios are not only obliged to leave their families at Jedo the capital, but to reside there themselves for six months in the year. The singular constitution of Japan therefore consists of an absolute hereditary monarchy, supported by a number of absolute hereditary princes; whose jealousy of each other's power conspires, with domestic pledges, to render them subservient to one supreme.

**LAWS.]** The superiority of the laws of Japan over those of Europe has been loudly proclaimed by Kämpfer. The parties themselves appear, and the cause is determined without delay. Yet Kämpfer's information on this head is defective, as he does not mention any code of laws. Thunberg informs us that the laws are few, but rigidly enforced, without regard to persons, partiality, or violence\*. Most crimes are punished with death, but the sentence must be signed by the privy council at Jedo. Parents and relations are made answerable for the crimes of those whose moral education they ought to have superintended. The police is excellent, there not only being a chief magistrate of each town, but a commissary of each street, elected by the inhabitants to watch over property and tranquillity. Two inhabitants in their turn nightly patrol the street to guard against fire.

The best proof that the laws are salutary is that few crimes are committed, and few punishments are inflicted. The brief code, according to Thunberg, is posted up in every town and village, in large letters, on a spot surrounded with rails†.

**POPULATION.]** The population of the Japanese empire, like that of other Asiatic states, cannot be treated with much precision. Ancient and modern travellers seem to have passed this subject in silence. Perhaps the Japanese have some prejudice against any enumeration, or choose from political views to bury it in obscurity; while the Chinese, with like design, may perhaps magnify the population of their country. All travellers however agree that the population is surprising, and though a great part of the country be mountainous, yet even the mountains are the objects of obstinate cultivation. Thunberg observes that the capital, Jedo, is said to be 63 British miles in circumference, and at any rate rivals Peking in size‡. Many of the villages are three quarters of a mile in length; and some so long that it requires several hours to walk through them: and these large

\* Thunberg, iv. 64.

† Ib. iv. 79.

‡ Ib. iii. 282.

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\* Thunberg, ii. 34

† Thunberg iv. 8. thousands of millions of this calculation implies

villages frequently occur at very short distances. Kämpfer says that the number of people daily travelling on the highways is inconceivable, and the *tokaido*, the chief of the seven great roads, is sometimes more crowded than the most frequented streets of European capitals\*. Varenius the geographer, who justly esteemed this country so interesting as to deserve a particular description, has from the best authorities estimated the standing army maintained by the princes and governors at 368,000 infantry, and 38,000 cavalry: while the Kubo emperor maintains 100,000 foot, and 20,000 horse: thus constituting in all a regular force of 468,000 infantry, and 58,000 cavalry†. It is probable that this army does not bear a greater proportion to the population, than that of an European state in time of peace; and as the army doubles that of France under the monarchy, so the population may also be double. Perhaps a more safe estimate may be formed, by supposing the population of Japan to equal that of China; and the former country being about one tenth part the size of the latter, the population will be about 30,000,000.

COLONIES.] Though the national laws prohibit emigration, yet where the Japanese make conquests, they seem to regard the country as their own, and to form settlements without hesitation. Hence Japanese colonies may be found in Jesso, and other adjacent isles: nay even in isles of the Indian archipelago, so that their laws, as in China, seem rather theoretic.

ARMY.] The army has been already mentioned as amounting to more than half a million; and the character of the people is singularly brave and resolute. The navy, like that of the other oriental powers, is beneath notice. The Japanese vessels are open at the stern, so that they cannot bear a boisterous sea; and though, like the Chinese, they have the use of the compass, yet it is inconceivable how they could in former times, make voyages, as is asserted, to Formosa, and even to Java.

REVENUES.] The revenues of this empire are minutely stated by Varenius, according to princes and provinces, the sum total being 2,834 tons of gold, on the Flemish mode of computation; and taking the ton at only 10,000l. sterling, the amount would be 28,340,000l. sterling, besides the provinces and cities which are immediately subject to the emperor. These revenues must not however be considered as national, being only yielded in coin to the various princes. The emperor however, besides the large revenues of his provinces, has a considerable treasure in gold and silver, disposed in chests of 1000 taels, or thays, each being nearly in value to a Dutch rix dollar, or about four shillings and four-pence English money. As the frenzy of mankind generally expends the public revenue in the support of an army, the real weight of the Japanese resources may best be estimated from the numerous army supported‡.

POLITICAL IMPORTANCE AND RELATIONS.] Japan maintains no political relations with any other state; and consisting of islands without a navy, its external political importance is of course confined, if not annihilated.

\* Thunberg, ii. 345. and iii. 318.

† Deser. Jap. cap. ix.

‡ Thunberg iv. 8. computes the revenue of the crown lands at more than forty-four thousands of millions of sacks of rice, each sack being about twenty pounds weight. But this calculation implies nothing to an European reader.



## CHAPTER III.

## CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Education. — Cities and Towns. — Edifices. — Roads. — Inland Navigation. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** A RECENT traveller has described the persons of this singular people in the following terms\*. “The people of this nation are well made, active, free and easy in their motions, with stout limbs, although their strength is not to be compared to that of the northern inhabitants of Europe. They are of a yellowish colour all over, sometimes bordering on brown, and sometimes on white. Ladies of distinction, who seldom go out in the open air without being covered, are perfectly white. It is by their eyes that, like the Chinese, these people are distinguishable. These organs have not that rotundity which those of other nations exhibit; but are oblong, small, and are sunk deeper in the head, in consequence of which these people have almost the appearance of being pink-eyed. Their eyes are dark brown, or rather black; and the eye-lids form in the great angle of the eye a deep furrow, which makes the Japanese look as if they were sharp sighted, and discriminates them from other nations. The eyebrows are also placed somewhat higher. Their heads are in general large, and their necks short: their hair black, thick, and shining, from the use they make of oils. Their noses, though not flat, are yet rather thick and short.”

This highly civilized people must of course display great diversity of character, but the virtues far preponderate over the vices; and even their pride is useful, as it prevents them from stooping to the mean tricks of the maritime Chinese. The Japanese use great varieties of food and sauces. The master or mistress of the house is not harassed with the trouble of carving, the meat being previously cut into small pieces, served up in basins of porcelain, or japanned wood. The general drink is sack, or beer made of rice; which last article also supplies the place of bread. They use many kinds of vegetables and fruits. The use of tea is also universal; but wine and spirituous liquors are unknown. The use of tobacco seems to have been introduced by the Portuguese; and the practice of smoking has become general.

The houses of the Japanese are of wood, coloured white, so as to resemble stone: and, though roomy and commodious, never exceed two stories in height, the upper serving for lofts and garrets, and seldom being occupied †. Each house forms but one room, which may be divided into apartments at pleasure, by moveable partitions sliding in grooves. They use neither chairs nor tables, sitting on straw mats, the meal being served apart to each on a small square wooden salver. In Jedo the houses are covered with tiles; but the general fabric is a frame work of wood, split bamboos, and clay.

The dress consists of trowsers: and what we call night gowns, or loose robes of silk or cotton, are universally worn by both sexes ‡. These are fastened by a girdle; the number being increased according to the coldness of the weather. Stockings are not used; and the shoes are commonly

\* Thunberg, iii. 251.

† Ib. iii. 112.

‡ Ib. iii. 257.

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of rice straw. The men shave the head from the forehead to the nape, but the hair on the sides is turned up and fastened at the crown of the head: conical hats made of grass are worn on journeys, but the fashion of wearing the hair forms the common economical covering of the head. The Japanese festivals, the games and theatrical amusements, equal those of most civilized nations.

LANGUAGE.] Thunberg has published a curious vocabulary of the Japanese language, which seems indeed to have little connection with the monosyllabic speech of the Chinese. There are also dictionaries drawn up by the Jesuits.

LITERATURE.] In the sciences and literature the Japanese yield to few of the oriental nations. This sensible people study house-keeping, or domestic economy, as an indispensable science; and next to this every Japanese is versed in the history of his country\*. Astronomy is cultivated, but has not arrived at much perfection. They survey with tolerable accuracy; and their maps are as exact as their imperfect instruments will permit. The art of printing is ancient, but they use blocks, not moveable types, and only impress one side of the paper. Some of their arts and manufactures even surpass those of Europe. There are excellent workmen in iron and copper; and to no eastern country do they yield in manufactures of silk and cotton; while in varnishing wood they are well known to have no equals. Glass is also common; and they even form telescopes. The porcelain is deemed superior to that of China. Their swords display incomparable skill; and many varieties of paper are prepared from the bark of a species of mulberry tree.

EDUCATION.] There are many schools in which the children are taught to read and write; their education being accomplished without the degradation of personal chastisement, while courage is instilled by the repetition of songs in praise of deceased heroes.

CITIES AND TOWNS.] The capital city of the Japanese empire is Jedo, centrally situated on a bay in the S. E. side of the chief island Nipon. The houses never exceed two stories, with numerous shops towards the streets. The harbour is so shallow that an European ship would be obliged to anchor at the distance of five leagues. A fire happened in this city in the year 1772, which is said to have consumed six leagues in length, and three in breadth: and earthquakes are here familiar as in other regions of Japan. The emperor's palace is surrounded with stone walls, and ditches with drawbridges, forming of itself a considerable town, said to be five leagues in circumference†. In this, and similar instances of oriental population and extent, though the best authorities be followed, yet the reader may, with the author, suspend his belief. The Japanese affirm that Jedo would occupy a person twenty-one hours to walk round its circumference, which might thus amount to about twenty-five leagues: and that it is seven leagues in length by five in breadth. A large river passes through the capital, and besides its wide ditches of the palace, supplies several canals. There are no walls nor fortifications, which are unknown in Japanese cities: but there are many splendid houses of the numerous princes.

Miaco, the spiritual capital, and second city of the empire, is placed in an inland situation about 160 miles S. W. from Jedo, on a plain. It is the first commercial city, and is celebrated for the principal manufactures. It is also the seat of the imperial mint: and the district being literary, all books are printed here. Kamptar informs us

\* Thunberg, iv. 84.

† 14 li 300

that, upon an enumeration taken in 1674, the inhabitants were found to amount to 405,642, of whom were males 182,070; and 223,572 females, without including the numerous attendants of the daira.

Nagasaki, being the nearest city to the Dutch factory in the isle of Dezima, has of course attracted the particular attention of our travellers. The harbour is the only one in which foreign ships are permitted to anchor, a privilege now enjoyed only by the Dutch and Chinese. The Portuguese trade raised this place, from a mere village, to its present size and consequence.

The other cities in the Japanese empire may amount to thirty or forty; but, except those on the route from Nagasaki to the capital, few have been explored by European travellers. Ofacca, and Sakai, boast the name of imperial cities.

**EDIFICES.]** Of the principal edifices of the Japanese some idea may be formed from the descriptions which our travellers give of the imperial palace, which, like those of the Chinese, consists of many dwellings, occupying an immense space. The saloon of the 100 mats is 600 feet in length by 300 in breadth. There is a high square tower (a mark of dignity not permitted here to the grandes, though usual at their own courts), which consists of several stages richly decorated; and most of the roofs are ornamented with golden dragons. The pillars and ceilings are of cedar, camphor, and other precious woods; but the only furniture consists of white mats, fringed with gold. The emperor gives audience in a smaller chamber, where he is seated on carpets.

The roads seem to be maintained in excellent order; but the mountainous nature of the country has prevented the formation of canals, which indeed the universal proximity of the sea renders almost unnecessary; otherwise so sensible and industrious a nation would doubtless have imitated the Chinese example.

**MANUFACTURES AND COMMERCE.]** The chief manufactures of Japan have been already mentioned in the account of arts and sciences. The inland commerce is very considerable, being free and exempted from imposts\*. The harbours are crowded with large and small vessels; the high roads with various goods; and the shops well replenished. Large fairs are also held in different places, to which there is a great concourse of people. The trade with China is the most important, consisting of raw silk, sugar, turpentine, drugs, &c. while the exports are copper in bars, lacquered ware, &c. Thunberg represents the profits of the Dutch trade as very inconsiderable, so that the company only employed two ships. The Japanese coins are of remarkable form, the gold being called Kobang. The silver called Kodama sometimes represents Daikok, the god of riches, sitting upon two barrels of rice, with a hammer in his right hand, and a sack at his left. The Sen, of copper or iron, are strung like the Chinese pieces of a similar value.

\* Thunberg, iv. 106.

## CHAPTER IV.

## NATURAL GEOGRAPHY.

*Climate and Seasons.*—*Face of the Country.*—*Soil and Agriculture.*—*Rivers.*—*Lakes.*—*Mountains.*—*Volcanoes.*—*Forests.*—*Botany.*—*Zoology.*—*Mineralogy.*—*Isles.*

CLIMATE AND SEASONS.] THE heat of summer is in Japan extremely violent, and would be insupportable, were not the air cooled by the sea breezes. Equally severe is the cold in winter, when the wind blows from the north or north-east. The weather is changeable throughout the year; and there are abundant falls of rain, especially in the tsatsaki, or rainy months, which begin at midsummer\*. This copious moisture is the chief cause of the fertility of Japan, and its consequent high degree of population.

Thunder is not unfrequent; and tempests, hurricanes, and earthquakes are very common. Thunberg has published his thermometrical observations, from which a clear idea may be formed of the climate. The greatest degree of heat at Nagasaki was  $98^{\circ}$  in the month of August; and the severest cold in January  $35^{\circ}$ . The thunder in the summer months is generally during the night; and the snow will remain on the ground some days even in the south.

FACE OF THE COUNTRY.] Though there are plains of considerable extent, as appears from the description of Miaco, yet Thunberg assures us that the whole country consists of mountains, hills, and valleys, the coast being mostly rocky and precipitous, and invested with a turbulent sea. The face of the country is also diversified with many rivers and rivulets, by numerous singular tribes of vegetation; and generally excites the social ideas of industry, more calculated perhaps to delight the heart than the wild appearances of deserted nature. The soil in itself may be said to be rather barren; but the prolific showers conspire with labour and manure to overcome even this obstacle. Agriculture is a science in the highest estimation with this sensible people, so that except the most barren and untractable mountains, the earth is universally cultivated; and even most of the mountains and hills. Free from all feudal and ecclesiastical impediments, and highly respected by other social classes, the farmer cultivates the soil with freedom and industry. There are no commons; and if any portion be left uncultivated it may be seized by a more industrious neighbour. The Japanese mode of manuring is to form a mixture of excrements of all kinds, with kitchen refuse, which is carried on spades into the field, and poured with a ladle upon the plants, when they have attained the height of about six inches, so that they instantly receive the whole benefit. The weeding is also carried to the utmost degree of exactness.

The sides of the hills are cultivated by means of stone walls, supporting level plots sown with rice or esculent roots. "Thousands of these beds cover most of their mountains, and give them an appearance which excites the greatest astonishment in the breasts of the spectators."

Rice is the chief grain; buck wheat, rye, barley, and wheat being little used. The sweet potatoe is abundant; with several sorts of beans and peas, turnips, cabbages, &c. The rice is sown in April, and gathered

\* Thunberg, iii. 224.

in November : in which last month the wheat is sown, and reaped in June. The barley also stands the winter. From the seed of a kind of cabbage lamp oil is expressed, and several plants are cultivated for dyeing ; there are also cotton shrubs and mulberry trees, which last feed abundance of silk worms. The varnish and camphor trees, the vine, the cedar, the tea tree, and the bamboo reed, not only grow wild, but are planted for numerous uses.

**RIVERS.]** The rivers of Nipon have not been delineated with much care. Among the few named are the Nogasa, and the Jedogawa, which passes by Ofaka, where it is crowned with several bridges of cedar, from 300 to 360 feet in length. The river Ojingawa is one of the largest and most dangerous in the country, though not subject like the others to swell during rains. Fusigawa is also a large and rapid river, as is that called Sakgawa. The largest river seems to be the Jodo, or perhaps in the German pronunciation Yodo, which flows S.W. from the central lake of Oitz : but our geography of the Japanese empire is far from being complete. Among the most important rivers Kämpfer names the Ujin (the Ojin of Thunberg), the Oomi reported by the Japanese history to have burst from the ground in one night, and the Aska\*.

**LAKEs.]** One of the chief lakes seems to be that of Oitz, which emits two rivers, one towards Miaco, the other towards Ofaka, and it is said to be 50 Japanese leagues in length, each about an hour's journey on horseback ; and the breadth is considerable.

**MOUNTAINS.]** The principal Japanese mountain is that of Fusi, covered with snow almost throughout the year. The Faconie mountains are in the same quarter, surrounding a small lake of the same name†. Many of the mountains are overgrown with wood ; and others cultivated as before explained. There are several volcanoes, and in general they abound with evergreen trees and crystalline springs.

**VOLCANOES.]** Near Firando there is a volcanic island, nor are others unknown in the surrounding seas‡. In the province of Figo there is a volcano which constantly emits flames ; and another, formerly a coal mine, in the province of Tsikufer. The course and extent of the various ranges of mountains have not been indicated.

Near the lake of Oitz is the delightful mountain of Jefan ; which is esteemed sacred, and is said to present not less than 3000 temples§.

**FORESTS.]** In the high state of cultivation few forests can appear, except those already mentioned as decorating the sides of mountains.

**BOTANY.]** The vegetable treasures of Japan are numerous, and have been ably explored by Kämpfer and Thunberg : on account however of the enormous population of the country, and the absolute necessity of paying the utmost attention to the introduction of whatever may contribute to human sustenance, it is not easy to ascertain how far several of the excellent plants cultivated here are truly indigenous. There are many points of resemblance between the floras of China and Japan, and the similarity has probably been strengthened by a mutual interchange of useful vegetables ; if indeed both countries have not rather derived some of their most valuable plants from Cochinchina, or the Philippine islands, the ginger, the soy-bean, black pepper, sugar, cotton and indigo, though perhaps natives of the more southern regions of Asia, are cultivated here with great success and in vast abundance. The Indian laurel and the camphor tree are found in the high central parts of Japan, as is also the

\* Thunberg, i. 164.

† Kämpfer, i. 166.

‡ Ib. iii. 164.

§ Ib. ii. 28.

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vermix, from the bark of which exudes a gum resin that is supposed to be the basis of the exquisitely beautiful and inimitable black varnish with which the inlaid cabinets and other articles of Indian luxury are covered. Besides the common sweet or China orange, another species, the citros japonica, is found wild, and almost peculiar to this country: two kinds of mulberry are met with, both in an indigenous and cultivated state, the one valuable as the favourite food of the silk worm, the other esteemed for the white fibres of its inner bark, which are manufactured into paper. The larch, the cypress, and weeping willow, found in all the warm regions between Japan and the Mediterranean, here arrive at the extremity of their boundary to the east; the same may be said of the opium, poppy, white lily, and jalap. The trumpet flower (*bignonia catalpa*) is common to this part of Asia, and Peru; in which circumstance it resembles the vanilla, whose berries form an article of commerce, being largely used in the preparation of chocolate. The tallow-tree, the plantain, the cocoa-nut tree, and two other palms, the *chamærops excelsa* and *cycas circinalis*, adorn the woodland tracts, especially near the shore, by the variety of their growth and foliage, while the uncultivated swamps by the sides of the rivers are rendered subservient to the uses of the inhabitants by the profusion and magnitude of the bamboos with which they are covered.

**ZOOLOGY.]** It is not a little remarkable that neither sheep nor goats are found in the whole empire of Japan; the latter being deemed mischievous to cultivation, while the abundance of cotton recompenses the want of wool. Swine are also deemed pernicious to agriculture; and only a few appear in the neighbourhood of Nagasaki, probably introduced by the Chinese\*. There are in general but few quadrupeds; the number of horses in the empire being computed by Thunberg as only equal to those of a single Swedish town. Still fewer cattle are seen; and the Japanese neither use their flesh nor their milk, but employ them only in ploughing or drawing carts. The food consists almost entirely of fish and fowl, with vegetables. Hens and common ducks are domesticated, chiefly on account of their eggs. A few dogs are kept from motives of superstition; and the cats are favourites of the ladies.

The wolf appears in the northern provinces, and foxes in other parts: these last being universally detested, and considered as demons incarnate.

**MINERALOGY.]** "That the precious metals gold and silver are to be found in abundance in the empire of Japan has been well known, both to the Portuguese, who formerly exported whole ship loads of them, and to the Dutch in former times. Gold is found in several parts, and perhaps Japan may in this respect contest the palm with the richest country in the world; but in order that this metal may not lose its value, by becoming too plentiful, it is prohibited to dig more than a certain stated quantity; not to mention that no metallic mine, of any kind whatever, can be opened and wrought without the emperor's express permission. When this permission is obtained two-thirds of the produce are the portion of the emperor, and the proprietor of the land receives one-third for the expences. The finest gold, together with the richest gold mines, are found on the largest of the Nipon islands near Sado. It is used for the mint, gilding, and embroidery; but it is not carried out of the country.

"Silver must formerly have been found in much greater plenty than at present, as a large quantity of it was then exported from this country. The Japanese consider it as being more rare than gold, although the latter metal is dearer. It is said to be found in the province of Bingo; and in

\* Thunberg, iv. 95.



the more northerly parts towards Kattami, very rich silver mines are to be met with. Independently of these places the two islands which are called the gold and silver isles, (*Ginsima, Kinsima*), are said to contain a great quantity of both of these precious metals. Silver is used for coining and for plating.

"Copper is quite common in every part of the empire, and is richly impregnated with gold, constituting the main source of the wealth of many provinces. It was not only formerly exported in amazing quantities, but still continues to be exported both by the Dutch and Chinese merchants. The finest and most malleable is dug in Suruga, Atsingo, Kyno, Kuni. The last sort is esteemed to be the most malleable of any; whilst that from Suruga contains the greatest quantity of gold. Of this metal are made small pieces of money for change; it is used likewise for plating and for making utensils, such as pots, kettles, &c.

"Iron seems to be scarcer than any other metal in this country. This they are neither fond of importing, nor yet of exporting it for sale. Of it they manufacture scymitars, arms, scissars, knives, and various other implements of which they stand in need.

"Brimstone is found in great abundance in Japan. Pit-coal is likewise to be met with in the northern provinces \*."

Here are several warm medical waters, which the inhabitants use for various diseases; particularly those of Obamma, and those in the mountain of Omfen. The natural curiosities of Japan have been little investigated, as Europeans have seldom visited the interior of the country.

ISLES.] There are many small isles dependent on Japan, particularly in the S. and E.; among which is Fatsifo, the place of exile for the grandees. This and the other small isles are scarcely known except by name.

## THE BIRMAN EMPIRE.

COMPRISING THE KINGDOMS OF AVA AND PEGU.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Name.—Extent.—Boundaries.—Original Inhabitants.—Progressive Geography.—Modern History.*

NAME.] BEFORE the appearance of a recent interesting publication †, scarcely any thing was known concerning this new empire; and geographers were constrained to detail the old accounts, which are little satisfactory. The Birman empire derives its name from the Birmans, who have been long known as a warlike nation in the region formerly styled INDIA BEYOND THE GANGES; the capital city of their kingdom being Ava, or Awa. Pegu is by the natives styled Bagoo ‡; being the country situated to the south of the former, and justly inferred to have been the Golden Chersonese of the ancients.

\* Thunberg, iv. 102.

† Symes's Account of the Embassy to Ava.

‡ Ib. i. 6. 2vo. edit.

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**EXTENT AND BOUNDARIES.]** It is difficult to ascertain with precision the boundaries of the Birman empire. Mr. Symes informs us that "it appears to include the space between the 9th and 26th degree of north latitude, and between the 92d and 107th degrees of longitude east of Greenwich; about 105 geographical miles in length and 600 in breadth: these are the ascertainable limits, taken from the Birman accounts. It should however be remarked that the breadth often varies, and is in many places very inconsiderable on what is called the Eastern Peninsula \*."

The geography of what is called India beyond the Ganges, a vague name for the wide and various regions between Hindoostan and China, is still defective. To the north the Birman empire is divided by mountains from Afam, a country little visited or known; and farther to the east it borders on Tibet and China. On the west a range of mountains and the little river Naaf divide the Birman possessions from the British dominions in Bengal; and the limit is continued by the sea. But the southern and eastern boundaries still remain obscure. Amidst this uncertainty it must suffice to observe that the Birman empire constitutes the fifth grand native power in Asia since Hindoostan and Persia have been divided, and may probably extend its authority over Laos and Cambodia, while it remains divided by deserts and ranges of lofty mountains from the united kingdoms of Chochin-China and Tunquin.

**ORIGINAL POPULATION.]** The original population of this region has been little illustrated. The alphabet, literature, and religion, are derived from those of the Hindoos; but the language, the grand criterion of national origins, has not been regularly collated with those of the adjacent countries †.

**PROGRESSIVE GEOGRAPHY].** Although this country appears to have been known to the ancients, constituting the utmost boundary of their knowledge in this quarter of the globe ‡, yet the first precise ideas concerning this part of the globe were derived from the discoveries of the Portuguese, but the geography remains so imperfect that even D'Anville has erred in the delineation; and Mr. Syme's work leaves room for many illustrations and improvements when future travellers shall investigate with care the countries beyond the Ganges §.

**HISTORY.]** The history of the Birman empire is detailed at some length in the introductory part of the recent publication; and as it displays the origin of a new and great Asiatic power it may be interesting to present an abstract. From the Portuguese accounts it appears that the Birmans, a brave and warlike race formerly subject to the king of Pegu, became afterwards masters of Ava, and caused a revolution in the former country about the middle of the sixteenth century, when they took Martaban. The Portuguese continued to influence these countries till they were expelled by the Dutch, who obtained settlements in various parts of the Birman territory; while the English had factories at Siriam, and even at Ava.

The Birmans continued to exercise their supremacy over Pegu till about the year 1740, when a civil war arose, during which the British factory at Sirian was destroyed in 1744. By some European aids the

\* Symes's Account of the Embassy to Ava, ii. 411.

† See vol. vi. of the Asiatic Researches.

‡ Geograph. des Grecs Anal. 139.

§ The French intercourse with Siam, towards the end of the seventeenth century, occasioned many descriptions of that kingdom; but the accounts of Ava and Pegu are rare. There is one of Tunquin and Laos, translated from the Italian of Marini, Paris 1661, 4to.

Peguese in 1750 and 1751, gained several victories over the Birman; and in 1752 Ava was besieged and taken; the last of a long line of Birman kings being reduced to captivity; but two of his sons escaped to Siam.

When Binga Della, king of Pegu, had completed the conquest of Ava, he returned to his own country, leaving his brother Apporaza to govern the late capital of the Birman king. All wore the aspect of tranquil submission, when there suddenly arose one of those men who are destined, by means almost invisible, to break the strongest rod of power, and to change the fate of empires. Alompra, a Birman of low extraction, was the chief of a small village, and was continued in this petty office by the victors. With one hundred devoted followers he attacked a band of fifty Peguese, whom he put to the sword; and afterwards defeated a small force sent against him; and about the autumn of 1753 took possession of Ava, while the Peguese government seems to have been lost by mere infatuation. After repeated defeats, Binga Della himself advanced against Alompra, and the war was conducted by fleets on the great river Irrawady, as well as by land, that of the Peguese being utterly defeated in close combat by that of the Birman. Alompra, proceeding in his conquests, founded the town now well known by the name of Rangoon, which signifies "victory achieved;" and soon after chastised the people of Cassay, who had revolted from the Birman authority. In 1756 he blockaded Sirian, which yielded to his arms; and after having deprived the capital of any foreign aid by water, he advanced against the city of Pegu, situated on an extensive plain, and then surrounded with no mean fortifications, while the stupendous pagoda of Shomadoo served as a citadel. This capital was invested in January 1757, and in about three months became a prey to the Birman. Alompra then proceeded to subdue the countries to the eastward as far as the three pagodas, the ancient boundary between Pegu and Siam. Tavoy has been since added to the Birman possessions in this quarter.

Alompra next determined to chastise the Siamese, for the encouragement they had given to his rebellious subjects, and ordered a fleet to sail to Merghi, a sea-port belonging to the Siamese, which was easily taken, and was followed by the conquest of Tanaferin, a large and populous city.

The victor next advanced against the capital of Siam; but, two days after the siege had commenced, Alompra was seized with a deadly disease, which saved the Siamese from destruction. He died within two days march of Martaban, about the 15th May 1760, regretted by his people, who at once venerated him as their deliverer, and as a great and victorious monarch. This founder of the Birman empire had not completed his fiftieth year: his person, strong and well proportioned, exceeded the middle size; and though his features were coarse, his complexion dark, and his countenance saturnine, there was a dignity in his deportment that became his high station, and which, like that of Oliver Cromwell, seems to spring from conscious power.

He was succeeded by his son Namdogee, who suppressed several insurrections, and died in 1764, leaving an infant son, Momien, whose uncle Shembuen, second son of the great Alompra, assumed the regency, and afterwards the diadem.

Shembuen, to divert the national attention, as usual with usurpers, declared war against Siam; and in 1760 two armies entered that country from the N. and S., and, being united, defeated the Siamese about seven days journey from their capital. The Siamese king privately withdrew, after

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after a blockade of two months, and the city capitulated; a Siamese governor being appointed, who swore allegiance to the Birman sovereignty, and engaged to pay an annual tribute.

The Chinese, apprehensive of the progress of these conquests, advanced an army from the province of Yunan, but were completely defeated by the Birmans. Policy spared the captives, who were invited to marry Birman wives, the Hindoo prejudices being here unknown. Shembuen rebuilt Ava Haung, or ancient Ava, the metropolis of the empire, which had fallen to ruin during the late commotions. The Siamese, though vanquished, remained unsubdued; and there is an inveterate enmity between the nations, which will prevent either servitude or alliance\*. A Siamese prince assumed the monarchy, and in 1771 defeated the Birmans. Shembuen afterwards turned his arms to the west, and forced the raja of Cachar to pay homage to his power. He died at Ava in 1776, and was succeeded by his son Chenguza, whose tyrannical conduct occasioned a conspiracy, at the head of which was Shembuen Minderagee, the present monarch, younger brother of the deceased Shembuen. Chenguza was slain in 1782.

The southern conquests of the Birmans had already extended as far as Merghi, and the northern provinces formerly belonging to Siam had been reduced to subjection and tribute. Minderagee determined to pass the mountains of Anoupec, and subdue Arracan, the raja or prince being of a supine character, and his subjects unwarlike, though they had never been reduced to pay homage to any foreign power. This conquest was commenced in 1783, and was speedily effected.

After this conquest the Birman arms were again turned against Siam, and in 1785 a fleet was sent to subdue the isle of Junkfeylon, which carries on a considerable trade in ivory and tin, and is the only remaining mart of Siamese trade on this coast. Meeting with a repulse, the Birman monarch left his capital at the head of 30,000 men, with a train of 20 field pieces; but was defeated by the king of Siam, who in his turn failed in an invasion of the viceroyalty of Martaban, which comprehends Tavoy, Merghi, and all the Birman possessions to the south. In 1793 a treaty was ratified between the Birmans and Siamese, by which the latter ceded the western maritime towns as far S. as Merghi inclusive. But, with this exception, and that of some northern provinces, the Siamese monarchy retains a considerable portion of its ancient fame. Hence it appears that the Birman empire can scarcely be computed to extend beyond the 102d degree of longitude, and that only in the part to the north of Siam.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Laws. — Government. — Population. — Army. — Navy. — Revenues. — Political Importance.*

RELIGION.] THE Birmans follow the worship of Hindostan, not as votaries of Brahma, but as disciples of Boodh, which latter is admitted by Hindoos of all descriptions to be the ninth Avatar, or descent of the deity in his capacity of preserver†. The

\* Symes, i. 171.

† Ibid. ii. 313.





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Birmans believe in the transmigration of souls ; after which the radically bad will be condemned to lasting punishment, while the good shall enjoy eternal happiness in the mount Meru. They esteem mercy to be the chief attribute of the Divinity.

**LAWS.]** The laws of the Birmans are inseparable from their religion. The sacred verses or forgeries of Menu are illustrated by numerous commentaries of the Munis, or old philosophers, and constitute the Dherma Sastre, or body of laws. Both the religion and laws proceeded originally from Ceylon, and passed through Aracan to Miama. "The Birman system of jurisprudence is replete with sound morality, and is distinguished above any other Hindoo commentary for perspicuity and good sense ; it provides specifically for almost every species of crime that can be committed, and adds a copious chapter of precedents and decisions, to guide the inexperienced in cases where there is doubt and difficulty. Trial by ordeal and imprecation are the only absurd passages in the book ; but on the subject of women it is to an European offensively indecent ; like the immortal Menu, it tells the prince and the magistrate their duty, in language austere, manly, and energetic."

**GOVERNMENT.]** Though the form of government is despotic, yet the king consults a council of ancient nobles. There are no hereditary dignities nor employments ; but all honours and offices, on the demise of the possessor, revert to the crown. The *ysaloe*, or chain, is the badge of nobility, the number of strings or divisions denoting the rank of the person, being three, six, nine, or twelve, while the king alone wears twenty-four. Rank is also denoted by the form and materials of various articles in common use.

**POPULATION.]** Colonel Symes states the population of the Birman dominions at 17,000,000, confessedly, however, the result of a very vague estimate.

**ARMY AND NAVY.]** Every man in the empire is liable to military service, but the regular army is very inconsiderable. During war the viceroys raise one recruit from every two, three, or four houses, which otherwise pay a fine of about 40l. \* sterling. The family of the soldier is detained as hostages ; and in case of cowardice or desertion suffer death, a truly tyrannic mode of securing allegiance. The infantry are not regularly clothed, but are armed with muskets and sabres ; while the cavalry carry spears about seven or eight feet in length. The royal magazines are said to contain about 20,000 miserable firelocks. But the war boats form the chief military establishment, consisting of about 500, formed out of the solid trunk of the teak tree, the length being from 80 to 100 feet, but the breadth seldom exceeding eight. They carry from 50 to 60 rowers, the prow being solid, with a flat surface, on which a piece of ordnance is mounted. Each rower is provided with a sword and lance, and there are 30 soldiers armed with muskets. The attack is impetuous, and chiefly conducted by grappling ; but the vessels being low in the water, the greatest danger is that of being run down by a larger boat striking the broad side. Their naval actions thus recel to remembrance those of classical antiquity.

**REVENUE.]** The revenue arises from one-tenth of all produce, and of foreign goods imported ; but the amount is uncertain. Yet as grants are commonly made in land or offices, and no money leaves the royal

\* Symes, ii. 322.

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treasury except in cases of great emergency, it is supposed that the monarch possesses immense treasures.

**POLITICAL IMPORTANCE AND RELATIONS.]** The political importance and relations of the Birman empire may considerably influence the commerce of the east, and may be considered as a barrier against the ambition of the Chinese, who might perhaps be induced to extend their possessions in this quarter, and might, in co-operation with the native princes, endanger our possessions in Hindostan. Such is however the superiority of European arms, that this event is little to be apprehended. But if the Birmans, as is not improbable, were to extend their authority over the whole of that part called India beyond the Ganges, they might, as being a most brave and determined nation, prove dangerous neighbours to our possessions in Bengal, especially if so far advanced in policy as to co-operate with the western princes of Hindostan. The temporary disjuncts therefore between the British and Chinese ought not to induce us to forget the greater danger from the Birmans, whose empire it cannot be our interest to enlarge, though policy will prevent our offering any open obstruction.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners. — Language. — Literature. — Cities. — Edifices. — Manufactures. — Commerce.*

**MANNERS AND CUSTOMS.]** **T**HE general disposition of the Birmans is strikingly contrasted with that of the Hindoos, from whom they are separated only by a narrow range of mountains, in many places admitting of an easy intercourse\*. Notwithstanding the small extent of this barrier, the physical difference between the nations could scarcely be greater, had they been situated at the opposite extremities of the globe. The Birmans are a lively inquisitive race, active, irascible, and impatient; the unworthy passion of jealousy, which prompts most nations of the east to immure their women within the walls of an haram, and surround them with guards, seems scarcely to have any influence over the minds of this extraordinary and more liberal people. Birman wives and daughters are not concealed from the sight of men, and are suffered to have as free intercourse with each other as the rules of European society admit; but in other respects women have just reason to complain of their treatment; they are considered as not belonging to the same scale of the nation as men, and even the law stamps a degrading distinction between the sexes; the evidence of a woman being not received as of equal weight with that of a man.

The women, though free, are generally too much occupied in the labours of the loom to admit of infidelity, the offspring of idleness. In war the men display the ferocity of savages, while in peace they can boast a considerable degree of gentleness and civilization. The Birman year comprises twelve months of 29 or 30 days alternately, a month being interposed every third year. The subdivision of the month is peculiar, as they number the days not only from the new moon, but from

\* Syme, ii. 222.

the full, which last is called the decreasing moon. They are fond of poetry and music, and among their instruments is the heem, resembling the ancient pipe of Pan, formed of several reeds neatly joined together, and sounded by a common mouth-piece, so as to produce a plaintive melody.

LANGUAGE AND LITERATURE.] The alphabet represents 33 simple sounds, and is written from left to right like the European. The Birman books are more neatly executed than those of the Hindoos, and in every *kioul*, or monastery, there is a library or repository of books. Colonel Symes was surprised at the number contained in the royal library, in which the large chests amounted to about 100 \*. The books were regularly classed, and the contents of each chest were written in gold letters on the lid.

The study of the laws and national religion must of course constitute a considerable branch of education among the great: that of the poor seems to be utterly neglected.

CITIES.] Ava, the ancient capital, has been permitted to sink into ruin since the recent foundation of Ummerapoora, on the eastern side of a great river which flows into the Irrawady. The new capital, with its spires, turrets, and lofty piasath, or obelisk, denoting the royal presence, seems to rise, like Venice, from the waters, being placed between a lake on the S.E. and the large river, with numerous isles on the N.W. The lake is called Tounzemahn, from a village on the opposite side, ornamented with tall groves of mango, palmyra, and cocoa trees. The number and singularity of the boats that were moored in the lake, and the surrounding amphitheatre of lofty hills, conspired to render the scene grand and interesting. The fort is an exact square, with public granaries and store rooms; and there is a gilded temple at each corner, nearly 100 feet in height, but far inferior to others in the vicinity of the capital. In the centre of this fort stands the royal palace, with a wide court in front, beyond which is the Lotoo, or hall of council, supported by 77 pillars, disposed in eleven rows. The extent and population of this city have not been accurately stated, but are probably inconsiderable.

Ava, formerly the capital, is also styled Aungwa, but is in a state of ruin. "The walls are now mouldering into decay, ivy clings to the sides, and bushes, suffered to grow at the bottom, undermine the foundation, and have already caused large chasms in the different faces of the fort. The materials of the houses, consisting chiefly of wood, had, on the first order for removing, been transported into the new city of Ummerapoora; but the ground, unless where it is covered with bushes or rank grass, still retains traces of former buildings and streets. The lines of the royal palace, of the Lotoo or grand council hall, the apartments of the women, and the spot on which the piasath or imperial spire had stood, were pointed out to us by our guide. Clumps of bamboos, a few plantain trees, and tall thorns, occupy the greater part of the area of this lately flourishing capital. We observed two dwelling-houses of brick and mortar, the roofs of which had fallen in; these, our guides said, had belonged to Colars, or foreigners. On entering one, we found it inhabited only by bats, which flew in our faces, whilst our sense of smelling was offended by their filth, and by the noisome mildew that hung upon the walls. Numerous temples, on which the Birmans never lay sacrilegious hands, were dilapidating by

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time. It is impossible to draw a more striking picture of desolation and ruin \*."

Pegu, formerly the capital of a kingdom, is also in ruins, having been razed by Alompra, in 1757, the praws or temples being spared; and of these the vast pyramid of Shomadoo has alone been revered and kept in repair. The present Birman monarch has endeavoured to conciliate the Taliens, or native Peguese, by permitting them to rebuild their ancient city, within the site of which a new town has accordingly been reared. The city occupies about half its former extent, and is the residence of the Maywoon, or governor of Pegu. It is decorated with that extraordinary edifice the Shomadoo, seated on a double terrace, one side of the lower being 1,391 feet, of the upper 684. The building is composed of brick and mortar, octagonal at the base, and spiral at the top, without any cavity or aperture. At the summit is a Tee, or sacred umbrella, of open iron work gilt, 56 feet in circumference; the height of the whole being 361 feet, and above the inner terrace 331 feet. Tradition bears that it was founded about 500 years before Christ. A more complete idea of this very singular edifice may be obtained from the print published by Colonel Symes, than any verbal description can convey.

One of the chief ports of the Birman empire is Rangoon, which, though like the capital, of recent foundation, is supposed to contain 30,000 souls. Towards the mouth of the river Pegu stands Sirian, formerly one of the chief ports of that kingdom, and of considerable commerce when in possession of the Portuguese. It was particularly celebrated for the export of rubies and other precious stones, which seem however to be chiefly found in the northern mountains.

Martaban was another sea port of considerable eminence, till the harbour was impeded by order of the Birman emperor. Of Tavoy and Merghi little is known; but Tanaferim maintains the dignity of a city.

The grand river of Irrawady is bordered with numerous towns and villages. Pearsain, or Bassien, stands on its western branch. At a considerable distance to the north is Prome, celebrated as the scene of many long sieges and bloody conflicts. The number of inhabitants exceeds that of Rangoon. Pagahm is also a considerable place. Nor must Aracan, a recent acquisition, be forgotten, which is divided by several canals derived from a river of the same name.

Towards the Chinese frontier are Quangtong, corresponding in name with the distant province called Canton by Europeans; Bamoo; and, in the county of Cassay, Munnipora. Monchaboo is a considerable town to the north of the capital.

**EDIFICES.]** The most remarkable edifice is the Shomadoo before described. The Kioums are often of singularly rich and fantastic architecture, as may be observed in the delineation given by Colonel Symes; who has also published a view of the grand hall of audience, perhaps as splendid an edifice as can well be executed in wood. His reception at the "golden feet," such is the term used for the imperial presence, was also remarkably grand, the pomp in some degree corresponding with that of the ancient Byzantine emperors.

**INLAND NAVIGATION.]** Nature has so amply provided the means of

\* Symes, li. 270.

inland navigation, by the numerous mouths and streams of the grand river Irrawady, that additional industry seems superfluous.

**MANUFACTURES.]** The Birmans excel in gilding, and several other ornamental manufactures. The edifices and barges are constructed with singular oriental taste and elegance; and at Chagain is a manufacture of marble divinities, the material being remarkably fine and almost transparent.

**COMMERCE.]** A considerable trade is carried on between the capital and Yunnan, the nearest province of China, consisting chiefly in cotton, with amber, ivory, precious stones, and betel nut; the returns being raw and wrought silks, velvets, gold leaf, preserves, paper, and some utensils of hard ware. Several thousand boats are annually employed in transporting rice from the lower provinces to supply Ummerapoora and the northern districts. Salt and gnapee, a kind of fish sauce used with rice, are also articles of internal commerce. European broad cloth and hard ware, coarse Bengal muslins, China ware, and glass, are imported by foreigners. The Birmans, like the Chinese, have no coin: but silver in bullion, and lead, are current.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.—Face of the Country.—Rivers.—Lakes.—Mountains.—Forests.—Botany.—Zoology.—Mineralogy.—Isles.*

**CLIMATE AND SEASONS.]** THE vigorous health of the natives attests the salubrity of the climate, the seasons being regular, and the extremes of heat and cold little known.

**FACE OF THE COUNTRY.]** The face of the country affords almost every variety, from the swampy Delta of the Irrawady to pleasant hills and dales, and considerable ranges of mountains. "The soil of the southern provinces of the Birman empire is remarkably fertile, and produces as luxuriant crops of rice as are to be found in the finest parts of Bengal. Farther northward the country becomes irregular and mountainous; but the plains and valleys, particularly near the river, are exceedingly fruitful; they yield good wheat, and the various kinds of small grain which grow in Hindostan; as likewise legumes and most of the esculent vegetables of India. Sugar canes, tobacco of a superior quality, indigo, cotton, and the different tropical fruits in perfection, are all indigenous products of this favoured land \*." Agriculture seems to be pursued with considerable avidity, but the mode has not been particularly illustrated.

**RIVERS.]** The chief river of the Birman empire is the Irrawady, which probably passes by Moguang to Bamoo, and thence by Ummerapoora and Prome towards the sea, which it joins by many mouths, after a comparative course of near 1,200 British miles. The Keen Duem seems to rise in the mountains towards Asam, being of much inferior size where it joins the Irrawady.

The river Sitang is the next on the east, after passing the small river of Pegu, but seems to be a kind of remote branch of the Irrawady.

The Thaluau enters the sea near Martaban, the length of its course

\* Symes, li. 372.

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exceeds that of the Irrawady, though not being fed by such numerous streams it cannot equal it in size. The river of Siam, or Maygue, also pervades a part of the Birman territory. The geography of all these rivers remains imperfect.

**MOUNTAINS.]** It is probable that the highest range of mountains is on the frontiers of Tibet. The other ranges are delineated as passing N. and S., but the names are not indicated, except those of Anoupec, between Ava and Arracan, and a small range running E. and W., which supplies the sources of the river of Pegu.

**FORESTS.]** The forests are large and numerous, many parts remaining in a state of nature. They supply almost every description of timber that is known in Hindostan; and, about four days journey to the N. of the capital, firs grow in abundance. But the lord of the Birman forest is the teak tree, superior to the European oak, which is there unknown: the teak flourishes in many parts of the empire, to the N. of the capital as well as to the S.

**BOTANY.]** All the countries that compose the rich and extensive territory of India beyond the Ganges, including the Birman empire, and the dominions of Pegu, Siam, Cambodia, Cochin-China, and Malacca, bear such a similarity to each other in their vegetable productions as far as they have been investigated, as renders it impossible to give a general and separate view of their respective floras without continual repetitions. Certain districts also in farther India have been examined with considerable attention, while others similarly situated have remained almost wholly overlooked: it is only therefore from analogy (a highly probable one indeed) that we can conjecture the most characteristic species of their indigenous plant. The mountains of the interior, and in general the whole northern frontier, are still totally unexplored, and the deep forests, infested with tigers, must ever continue, even in the more accessible parts, to oppose no trifling obstacles to the spirit of scientific adventure.

It is in those parts of the torrid zone that abound with water, and where, from the influence of the monsoons, the country is extensively flooded every year, that vegetation assumes a vigour and sublimity wholly inconceivable by the native of more temperate climates; everlasting verdure, grace, and majesty of form, height and amplitude of growth, are the distinguishing attributes of their trees, compared with which the monarchs of our forests sink into vegetables of an inferior order: the same exuberance of nature is conspicuous in their shrubs and herbaceous plants, in their blossoms and their fruits, whose vivid brilliancy of colour, singularity of shape, aromatic fragrance, and exalted flavour, reduce to relative insignificance the puny produce of European summers.

Here rises in proud magnificence the white sandal tree, whose fragrant wood is in high request through the whole east for the grateful odour of its smoke. The teak tree (*teetona theca*) is at least equal even to British oak as a durable material for ship building; the true jet black ebony wood is the produce of one of the indigenous trees of Cochin-China. The sycamore fig, the Indian fig, and the banyan tree, itself a grove, by the breadth of their leaves and the luxuriance of their foliage, afford a most delicious shelter, impenetrable even by the meridian ardour of an Indian sun.

Of the plants that are used in medicine or the arts some of the most important are natives of Farther India: the nature of this work does not admit of specifying the whole, but those of most consequence are the following.



lowing. The ginger and cardamom, two pleasant aromatics, are found wild on the river sides, but are also cultivated in great abundance; the turmeric, whose principal use in Europe is as a dyeing drug, is largely used by the natives of the coast to tinge and flavour their rice and other food: the leaves of the betel pepper, with the fruit of the black and long pepper, are the most favourite of their native spices, to which may also be added three or four kinds of capsicum. The cinnamon laurel grows in abundance on each side of the Malayan peninsula, and sometimes, as it is said, accompanied by the nutmeg. The sugar cane, the bamboo, and the spikenard, the three most celebrated plants of the grass tribe, are found throughout the whole country: the two former in rich swamps, and the latter on dry hills. The sweet potatoe, mad apple and love-apple, gourds, melons, water melons, and a profusion of other esculent plants, enrich this favoured country; all these however require cultivation: but the plantain, the cocoa nut, and sago palm, furnished by the free unstinted bounty of nature, contribute most plentifully to satisfy the wants of the inhabitants. Of native fruits they possess a vast variety and an inexhaustible abundance. The vine grows wild in the forests, but from excessive heat and want of cultivation its fruit is far inferior to that of the south of Europe: to compensate however for this deficiency, they have the luscious mango, the pine-apple, the sapindus edulis (the li-tchi of the Chinese), the mangosteen plum, the custard apple, the papaw fig, the orange, the lemon, and lime, and a multitude of other exquisite fruits, whose very names are scarcely known in Europe.

**ZOOLOGY.]** The animals in general correspond with those of Hindostan. Elephants principally abound in Pegu. The horses are small, but spirited. A kind of wild fowl called the henza, and by the Hindoos the braminy goose, has been adopted as the symbol of the empire, like the Roman eagle.

**MINERALOGY.]** The mineralogy of this region, the Golden Chersonese of the ancients, is opulent, and some products rather singular. While Malacca, which has hitherto been supposed the Golden Chersonese, scarcely produces any mineral except tin, and is in truth a poor country, only celebrated as an emporium of Portuguese trade with China, the rivers of Pegu, on the contrary, still continue to devolve particles of gold: and their sands must in ancient times have been yet more prolific of that precious metal. Nor is it improbable that the practice of gilding the roofs and spires of temples and palaces may ascend to ancient times, as we are told that the Shomadoo was built about 500 years before the Christian era: in which case the splendid appearance might naturally give rise to the classical appellation of the country. In many regions gold is found intermingled with silver; and six days' journey from Bamoo (probably towards the north) there are mines of gold and silver at Badouem, near the frontiers of China. By a singular conjunction, there are, according to the same authority, mines of gold, silver, rubies, and sapphires, at present open on a mountain called Wooboloo-taun, near the river Keen Duem.

There is also abundance of inferior minerals, as tin, iron, lead, antimony, arsenic, and sulphur; and amber, a rare and singular product, is not only dug up in large quantities near the river Irrawady, but is uncommonly pure and pellucid.

The most singular product of Pegu is the ruby, a stone next to the diamond in value, and which is found in a mountain between Siriam and Pegu, this substance being almost as peculiar as the diamond is to Hindostan.

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† Turpin, li. 362.

doftan \*. Rubies and fapphires are alfo found in the north-western part of the empire ; but the moft valuable mines are in the vicinity of the capital, or rather about 30 British miles to the north.

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## ARACAN.

THIS kingdom has been already mentioned in the preceding account of the Birman empire. The materials concerning it are scanty and imperfect, though the extent of coast seems to invite commerce. The air is pure, and contagious disorders are unknown. The plains are said to be extremely fertile ; and delicious vallies present numerous flocks of cattle, but horfes are rare, and the land is laboured by buffaloes. The rainy reason, improperly called winter, begins in April and ends in October. The other months are dry and afford abundance of vegetables, fruits, and grain ; but wheat and rye are unknown †.

The capital gives a great idea of the kingdom, its extent being said to fill feveral leagues ; and oriental exággeration adds, that the number of inhabitants equals that of the moft populous European cities, while the temples are computed at fix hundred. The palace of the monarch was of diftinguished wealth, and the golden hall was fo ftyled, becaufe it was covered from top to bottom with that precious metal. A hundred ingots of gold, each weighing forty pounds, were fufpended from the canopy, which was alfo of mafsy gold. Such are the tales of the eaft, but the judicious reader will think that I am copying Mendez de Pinto, or fome other extravagant traveller, and will obferve that, when the Birmanians conquered this country, in 1783, the richeft booty was an idol of brafs.

The natives of Aracan are faid to be averfe to commerce, and to a maritime life ; but the Mahometans export elephants to Hindoftan and Perfia, whence they return linen, filks, and fpecies. Aracan chiefly abounds in wood, ivory, lead ; and, if we believe our author, likewise in tin.

A large and flat forehead diftinguifhes the inhabitants of Aracan, but is the work of fafhion and caprice, by the application of a leaden plate in early infancy. Their noftrils are large, and their ears faid to be even monftrous. Their drefs confifts in a cotton fhirt covering the arms, but on occafions of ceremony they wear long robes. Their hair is woven in trefles, while that of the women is difpofed in floating buckles, with all the fhill of an European coquette.

Their repasts are not of an enticing kind, confifting of rats, mice, ferpents, and other animals little known in European cookery. Fifh muft be kept a confiderable time before it can provoke their palate ; and their drink is pure water, or the juice of the palm tree.

Virginity is not a refpected virtue, the indolence of the hufbands preferring the temporary brides of the foreign feamen. The monarch, fhut up in his palace, vegetates in infipid luxury with his queen and concubines. Twelve girls are annually expofed to the fun ; and the fine linen which abforb their perfpiration is fent to the monarch, that from the odour he

\* The *Siriam* garnet, vulgarly *Syrian*, is alfo from this country.

† Turpin, li. 362.

may judge of the fairest. It is even said that, as in some countries in Africa, the royal guard is composed of armed concubines.

Medicine is only practised by the priests called Raulins, who breathe upon the sick, pronounce mysterious words, and offer sacrifices.

The dead bodies of the great are committed to a funeral pile, but those of the poor are thrown into the rivers, as our author asserts, though the practice be contradictory to that of all other nations. He adds, however, that the bodies are sometimes exposed to the birds of prey, a well-known custom of the Perfes. It is esteemed an act of piety to hasten the fatal termination of a lingering disease.

Their temples are said to resemble pyramids; and they have domestic gods, whose image they sometimes impress on their arm with heated iron. There are processions of idols, as in Hindostan, when many voluntary victims are crushed by the wheels of the car.

There are three orders of priests; and their chief, who resides in the isle of Munay, has great authority, the king, though despotic, being uncovered in his presence, and yielding the precedence in ceremonies. All the priests live in perpetual celibacy, and the violation of this purity implies instant degradation. Some of these religious men live like hermits, amidst rocks, dark forests, and deserts; while others inhabit palaces at the royal expence.

Among other small kingdoms in the vicinity of the Birman empire, may be mentioned Jangoma, or perhaps Yangoma, on the north of Siam. The extent is said to be various, at short epochs, the revolutions being frequent. This country, according to the Siamese reports, is governed by priests. The inhabitants are said to be tall and well proportioned, their sole garment in this hot climate being a cincture of linen. The women are famed in the east for their gallantry and beauty, in which last quality they surpass those of Pegu; and voluptuous monarchs think their harem enriched and adorned by a concubine from Jangoma. The common food is rice, and the country is also said to abound in musk, pepper, silk, gold, silver, copper, and gum-benjamin. But it is sufficient to mention this country, only known by such doubtful relations.

Between Aracan and our possessions in Bengal, is the small and mountainous country of Tibra, which is said to be only remarkable for a mine of gold. Secure in their mountains, the people are happy, because they are unknown.

## MALAYA, OR MALACCA.

*Progressive Geography. — Name and Extent. — Language. — Products. — City of Malacca. — General Remarks on the Malays. — Isles of Andaman and Nicobar.*

**T**HE peninsula appended to the Birman territories on the south is styled Malaya or Malacca.

**PROGRESSIVE GEOGRAPHY.]** This chersonese was certainly unknown to the ancients, and seems to have escaped the knowledge of Marco Polo, if this be not his Maletur, where he says there was abundance of spices and the natives had a proper and peculiar speech.

However this be, the Portuguese are regarded as the first discoverers of

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Malacca in 1509, to which they were led by the vain idea of finding the golden Cherfonele of the ancients. In 1509 the Portuguese conquered the peninsula.

**NAME.]** The name is derived from the Malays, who are mostly Mahometans, and in some degree civilized; but the inland parts seem to be possessed by a more rude native race, little known amidst the imperfection of materials concerning this country. The northern limits are not strictly defined; but Malacca is about 8°, or near 560 British miles in length, by about 150 miles of medial breadth, a territory sufficiently ample for a powerful monarchy, had its native productions corresponded with its extent.

**LANGUAGE.]** The Malayan language has been called the Italian of the east, from the melody of frequent vowels and liquids.

The Arabic character is made use of; and an influx of words of that language has followed the adoption of the Mahometan religion. They write on paper, using ink of their own composition, and pens made of the twigs of a tree. The purest Malay is still supposed to be spoken in the peninsula, and has no inflection of nouns or verbs.

**DIVISIONS.]** Malacca is represented as divided into the kingdom of Patani in the north, and that of Johor or Jor occupying the southern extremity of the peninsula, the chief towns being Batulaber the capital, Linga, Bintam, and Carimon.

**PRODUCTS.]** The inland part of the Malayan peninsula seems to remain full of extensive aboriginal forests; nor do the ancient or modern maps indicate any towns or villages in these parts. The indolence of the inhabitants has prevented the country from being explored, but it produces pepper, and other spices, with some precious gums and woods. The wild elephants supply abundance of ivory; but the tin; the only mineral mentioned, may perhaps be the produce of Banka.

The city of Malacca, which seems to have been founded by Mahometans in the thirteenth century, was held by the Portuguese till 1641, when it was seized by the Dutch. It was considered as situated in the southern kingdom of Johor; and in the last century was supposed to contain 12,000 inhabitants, of which however only 3,000 dwelled within the walls. Not above 300 were native Portuguese, the others being a mixed race of Mahometan Malays, accounted among the chief merchants of the east. The Portuguese settlement did not extend above five leagues around; yet became highly important from its advantageous position for Indian and Chinese commerce\*.

The mean and disgraceful jealousy of the Dutch concerning their oriental possessions renders the recent accounts of this city imperfect.

In general the Malays are a well made people, though rather below the middle stature, their limbs well shaped, but small, and particularly slender at the wrists and ankles. Their complexion is tawny, their eyes large, their noses seem rather flattened by art than nature; and their hair is very long, black, and shining.

Besides the tyger and elephant, Malacca produces the civit cat described by Sonnerat, who also mentions that wild men are found in this peninsula, perhaps the noted Orang Outangs.

They are restless, fond of navigation, war, plunder, emigrations, colonies, desperate enterprizes, adventures, and gallantry. They talk incessantly of their honour and their bravery, whilst they are universally considered by those with whom they have intercourse as the most trea-

\* Mandelstø, i. Col. 337.

cherous ferocious people on the face of the globe : and yet, they speak the softest language of Asia.

This ferocity is so well known to the Europeans companies who have settlements in the Indies, that they have universally agreed in prohibiting the captains of their ships, who may put into the Malay islands, from taking on board any seamen of that nation, except in the greatest distress, and then on no account to exceed two or three.

It is nothing uncommon for a handful of these savages suddenly to embark, attack a vessel by surprise, poinard in hand, massacre the people, and make themselves masters of her. Malay barks, with 25 or 30 men, have been known to board European ships of 30 or 40 guns, in order to take possession of them, and murder with their poinards great part of the crew. The Malay history is full of such enterprises, which mark the desperate ferocity of these barbarians.

Opposite to the coast of Malacca, though at a considerable distance, are the islands of Andaman and of Nicobar. The Great Andaman is about 140 British miles in length, but not more than 20 in the greatest breadth, indented by deep bays affording excellent harbours, and intersected by vast inlets and creeks, one of which, navigable for small vessels, passes quite through the isle\*. The soil is chiefly black mould, the cliffs of a white arenaceous stone: The extensive forests afford some precious trees, as ebony, and the Nicobar bread fruit. The only quadrupeds seem to be wild hogs, monkeys, and rats. The sea supplies numerous fish, and excellent oysters. The people of the Andamans are as little civilized as any in the world, and are probably cannibals. They have woolly heads, and perfectly resemble negroes. Their character is truly brutal, insidious, and ferocious, and their canoes of the rudest kind. On Barren isle, about 15 leagues to the east of the Andamans, is a violent volcano which emits showers of red hot stones : and the whole island has a singular and volcanic appearance. A British settlement has been recently formed on the Greater Andaman, and some convicts sent thither from Bengal. The natives, about 2000, have already profited by the example of English industry.

The Nicobars are three ; the largest being about five leagues in circumference†. They produce cocoa and areca trees, with yams and sweet potatoes ; and the eatable birds' nests, so highly esteemed in China, abound here as well as in the Andamans. The people are of a copper colour, with small oblique eyes and other Tatar features. In their dress a small stripe of cloth hangs down behind ; and hence the ignorant tales of seamen which led even Linnæus to infer that some kind of men had tails. The only quadrupeds are swine and dogs. The traffic is in cocoa-nuts, of which one hundred are given for a yard of blue cloth.

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\* Loubere, i. 16. ed  
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## SIAM.

## CHAPTER I.

## HISTORICAL GEOGRAPHY.

*Name.—Extent.—Boundaries.—Original Population.—Progressive Geography.—Historical Epochs.*

**TILL** the recent extension of the Birman empire, the rich and flourishing monarchy of Siam was to be regarded as the chief state of exterior India.

**NAME.]** The name of this celebrated country is of uncertain origin, and in appearance first delivered by the Portuguese, in whose orthography Siam and Siao are the same, so that Sian, or Siang, might be preferable to Siam\*; and the Portuguese writers in Latin call the natives *Siones*. The Siamese style themselves *Tai*, or freemen; and their country *Mewang Tai*, or the kingdom of freemen. It is probable that the Portuguese derived the name Sian from intercourse with the Peguese †.

**EXTENT AND BOUNDARIES.]** The extent of the Siamese dominions has been recently restricted by the encroachments of the Birmans, nor can some of the limits be accurately defined. On the west of the Malaian peninsula a few possessions may remain, to the south of Tanaserim; and on the eastern side of that Cherfonese Ligor may mark the boundary. On the west a chain of mountains seems to divide Siam, as formerly, from Pegu,—but the northern province of Yunthan would appear to be in the hands of the Birmans, who here seem to extend to the river Maykang. To the south and east the ancient boundaries are fixed; the ocean, and a chain of mountains dividing Siam from Laos and Cambodia. Thus the ancient idea may be retained, that this kingdom is a large vale between two ridges of mountains.

The length of the kingdom may be about ten degrees, or near 700 British miles; but of this about one half is not above 70 miles in medial breadth.

**ORIGINAL POPULATION.]** The original population of Siam, and other regions of Exterior India, can only be traced by affinity of languages; and the topic has been little illustrated.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography of Siam ascends to classical antiquity, if the people be, as is reasonably inferred, the *Sinæ* of Ptolemy. In the reign of the emperor Justinian, Cosmas, called Indicopleustes, mentions the silk of the *Sinæ*, as imported into Taprobana; which he also calls *Sinediva*, coinciding with *Selandia*, the oriental name of Ceylon: and when he adds that this isle was at an equal distance from the Persian gulph, and the region of the *Sinæ*, he affords an additional proof that the latter was Siam. This country is not indeed at present remarkable for the production of silk, the staple article of the ancient *Sinæ*; but it appears that the silk of the early classics was the growth of a tree, a kind of silky cotton, still abundant in Siam; and

\* Loubere, i. 16. edit. Amst. 1714.

† *Shan* is the oriental term, as appears from several papers in the Asiatic Researches.



perhaps, as Malacca afterwards became famous for products not its own, so Siam, in a similar central position between China and Hindostan, might, in ancient times, be the mart of this and other more oriental articles.

Some faint notices concerning Siam may probably occur in the oriental geographers of the middle age; but such inquiries are more proper for an antiquarian dissertation. Suffice it to observe that, till the Portuguese discoveries, Siam may be said to have remained unknown to Europeans. In the middle of the seventeenth century Mandelso\* has compiled a tolerable account of this country; but the French descriptions present more precision of knowledge, as well as more extent of information. By the latter was first reformed a singular error in the geography, which deduced the great rivers of Ava, Pegu, and Siam from a large inland lake called Chiamai, in lat.  $30^{\circ}$  while Tibet is placed in lat.  $40^{\circ}$ . But on comparing the maps of Asia in the beginning of the last century, the reader will be sensible of the great progress of geography in recent times.

**HISTORICAL EPOCHS.]** The Siamese history is imperfect, and abounds with fables. Their epoch is derived from the pretended dispartion of their god Sommona Codam (or Boodh); yet by Loubere's account their first king began to reign in the year 1300 of their epoch, or about 756 years after the Christian era. Wars with Pegu, and occasional usurpations of the throne, constitute the hinges of Siamese history since the Portuguese discovery. In 1568 the Peguese king declared war on account of two white elephants which the Siamese refused to surrender, and after prodigious slaughter on both sides, Siam became tributary to Pegu. But about 1620, Raja Hapi delivered his crown from this servitude†. In 1680 Phalcon, a Greek adventurer, being highly favoured by the king of Siam, opened an intercourse with France, in the view of supporting his ambitious designs; but they were punished by his decapitation in 1689, and the French connection ceased in consequence. The latter events of Siamese history may partly be traced in that of the Birman empire.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Government. — Laws. — Population. — Army. — Navy. — Revenues. — Political Importance.*

**RELIGION.]** THE religion of the Siamese, like that of the Birmans, resembles that of the Hindoos; and the transmigration of souls forms an essential part of the doctrine; but they imitate the Chinese in their festival of the dead, and in some other rites of that singular nation.

**GOVERNMENT.]** The government of Siam is despotic; and the sovereign, as among the Birmans, revered with honours almost divine. The succession to the crown is hereditary in the male line.

**LAWS.]** The laws are represented by all writers on this country as extremely severe, death or mutilation being the punishment even of unimportant offences.

\* Col. 304—331.

† Mandelso, 332.

### POPULATION.]

**POPULATION.]** adequate documents more than conclude that there were on hundred thousand countries!

**ARMY.]** a few royal guards occasionally raised. The manner of practised in the

**NAVY.]** The sizes, some of man history, rivers of Extremity the Birman and elegance.

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*Manners. — Language.*

**MANNERS AND LANGUAGE.]**

between the vast difference, as they are, though central, manners are rather Hindoos.

The women are The espousals are the parties are content without any farther but is rather practised wife is always acknowledged. The Siamese

\* Loubere

POPULATION.] Concerning the population of Siam there are no adequate documents. If the Birman empire contain, as is asserted, more than fourteen millions, it might perhaps be reasonable to conclude that the Siamese dominions may be peopled by about eight millions. Yet Loubere assures us, that, from actual enumeration, there were only found of men, women, and children, one million nine hundred thousand \*. So uncertain are the computations in oriental countries !

ARMY.] Loubere says that, in his time, there was no army except a few royal guards ; but Mandello estimated the army, which may be occasionally raised, at 60,000, with not less than 3000 or 4000 elephants. The manner of raising this army resembles that already described, as practised in the Birman empire.

NAVY.] The navy is composed of a number of vessels of various sizes, some of which are richly decorated. Hence, as in the Birman history, naval engagements are not uncommon ; and the large rivers of Exterior India are often reddened with human gore. Both the Birman and Siamese vessels frequently display a singular fantastic elegance.

REVENUES.] The revenues of this sovereignty are of uncertain computation. There is a royal treasury, as in most other eastern states, but voyagers have not attempted to define its probable amount.

POLITICAL IMPORTANCE AND RELATIONS.] Siam appeared of considerable political importance to the French in the reign of Louis XIV., who aspired to form lasting settlements, and render it a mart of Indian commerce, and a source of great opulence to themselves. Were the Birman to become dangerous to our possessions in Bengal, a firm alliance with Siam might be highly serviceable. In a merely commercial point of view, as it may be difficult to preserve the friendship both of the Birman and the Siamese, it is a matter of calculation from which state superior advantages may be derived.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners.—Language.—Literature.—Cities.—Edifices.—Manufactures.—Commerce.*

MANNERS AND CUSTOMS.] THERE is a considerable similitude in the manners and customs of all the states between the vast countries of China and Hindostan ; with shades of difference, as they approximate to either of these *foci* of civilization. Siam, though central, has embraced a branch of Hindoo faith, and the manners are rather Hindostanic than Chinese.

The women are under few restraints, and are married at an early age. The espousals are concluded by female mediation ; and on the third visit the parties are considered as wedded, after the exchange of a few presents, without any farther ceremony civil or sacred. Polygamy is allowed ; but is rather practised from ostentation than any other motive, and one wife is always acknowledged as supreme.

The Siamese funerals considerably resemble those of the Chinese †.

\* Loubere, l. 30.

† Ib. l. 971.

The body is inclosed in a wooden bier or varnished coffin; and the monks called Talapoins, (perhaps from their *talapan*, or peculiar umbrella,) sing hymns in the Bali tongue. After a solemn procession the body is burnt on a funeral pile of precious woods, erected near some temple; and the spectacle is often rendered more magnificent by the addition of theatrical exhibitions, in which the Siamese excel. The tombs are in a pyramidal form, and those of the kings large and lofty. Mourning is not prescribed by the laws, as in China: and the poor are buried with little ceremony.

The common nourishment of the Siamese consists in rice and fish, both which articles are abundant. They also eat lizards, rats, and several kinds of insects.

The houses are small, and constructed of bamboos upon pillars, to guard against inundations so common in this country. They are speedily destroyed and replaced; and a conflagration, if a common, is at the same time a slight calamity. Even the palaces only exceed the common habitations by occupying a more extensive space, and being constructed of timber, with a few ornaments: they are also of a greater height, but never exceed one floor.

In person the Siamese are rather small, but well made\*. "The figure of the countenance, both of men and women, has less of the oval than of the lozenge form, being broad, and raised at the top of the cheeks; and the forehead suddenly contracts, and is almost as pointed as the chin. Besides, their eyes rising somewhat towards the temples, are small and dull: and the *white* is commonly completely yellow. Their cheeks are hollow, because the upper part is too high; the mouth is very large, with thick pale lips, and teeth blackened by art. The complexion is coarse, being brown mixed with red, to which the climate greatly contributes†."

Hence it would appear that the Siamese are much inferior in personal appearance to the Birmans; and rather approach to the Tataric or Chinese features.

The dress is extremely slight, the warmth of the climate rendering clothes almost unnecessary.

The Siamese excel in theatrical amusements. The subjects are often taken from their mythology, and from traditions concerning their ancient heroes. They have also races of oxen and those of boats, combats of elephants, cock-fighting, tumbling, wrestling, and rope-dancing, religious processions, and illuminations, and beautiful exhibitions of fire-works. The men are generally indolent to excess, and fond of games of chance, while the women are employed in works of industry.

**LANGUAGE.]** Like the other languages of Farther India, the Siamese has not been completely investigated, and compared with the adjacent tongues. There are thirty-seven letters, all consonants; the vowels and diphthongs constituting a distinct alphabet. The R appears, which is not known to the Chinese, and the W. There is a considerable chant in the enunciation, as in other ancient languages. There are no inflexions of verbs or nouns; and the idioms being very remote from those of Europe, any translation becomes very difficult. The words seem mostly monosyllabic, like the Chinese.

\* Loubere, i. 81.

† Kämpfer, i. 99. calls them negroes, so dark did their complexions appear to him; and he compares their persons to apes.

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#### LITERATURE.]

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\* Loubere, i. 180

The Bali of the Siamese resembles that of the Birmans, and has thirty-three letters.

**LITERATURE.]** In literature the Siamese are far from being deficient, and Loubere has well explained their modes of education \*. At the age of seven or eight years the children are often placed in the convents of the Talapoins, where they are instructed in reading, writing, and accounts; for the mercantile profession is very general. They are also taught precepts of morality; but it is to be regretted that Boodh is not only the god of wisdom but of cunning, which is esteemed, if not a positive virtue, yet a proof of superior abilities. Books of history are not unknown, and there is an excellent code of laws. Poetry, tales, and mythologic fables, seem to constitute the other departments of Siamese literature.

**CITIES AND TOWNS.]** The capital city of the kingdom has been called Siam, by the vague ignorance of the Portuguese navigators. In the native language the name approaches to the European enunciation of Yuthia. It is situated in an isle formed by the river Meinam. The walls, in Loubere's time, were extensive; but not above a sixth part was inhabited. Its condition, since it was delivered from the Birman conquest in 1766, has not been described.

The other chief towns in the Siamese dominions are Bankok, at the mouth of the Meinam; with Ogmo and others on the eastern coast of the gulph of Siam. In general these towns are only collections of hovels, sometimes surrounded with a wooden stockade, and rarely with a brick wall. As there is no recent description of the country, it would be superfluous to dwell on old descriptions of places perhaps ruined in the frequency of oriental revolutions; while other cities may have arisen as yet unknown to geography.

**EDIFICES.]** Kämpfer, in 1690, visited Siam; and his account, though brief, is solid and interesting. He minutely describes two remarkable edifices near the capital †. The first is the famous pyramid called Puka Thon, on a plain to the N. W., erected in memory of a victory there obtained over the king of Pegu. It is a massy but magnificent structure, about 120 feet in height, in a square spot inclosed by a wall. The first stage is square, each side being about 115 paces long. The others vary in form; and there are open galleries ornamented with columns. At the top it terminates in a slender spire.

The second edifice consists of two squares to the east of the city, each surrounded with a fair wall, and separated by a channel of the river. They contain many temples, convents, chapels, and columns, particularly the temple of Berklam, with a grand gate ornamented with statues and other carvings; the other decorations were also, by his account, exquisite.

That intelligent voyager also describes some other edifices; and his ideas on the subject deserve to be contrasted with those of Loubere, who, accustomed to the pomp of Louis XIV., or disgusted by the massacre of his countrymen, may in this, and some other instances, have perhaps given unfavourable representations of this celebrated country.

**MANUFACTURES.]** Though the Siamese are an indolent, yet they are an ingenious people, and some of their manufactures deserve praise. They are little skilled in the fabrication of iron or steel; but excel in that of gold, and in miniature painting. The common people are mostly occupied

\* Loubere, i. 180.

† Kämpfer, i. 50.

in procuring fish for their daily food, while the superior classes are engaged in a trifling traffic.

**COMMERCE.]** The commercial relations are chiefly with Hindostan, China, Japan, and the Dutch.

The productions of the country are prodigious quantities of grain, cotton, benjamin; sandal, aguallo, and sapan woods; antimony, tin, lead, iron, load stone, gold and silver; sapphires, emeralds, agates, crystal, marble, and tombac \*.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons.*—*Face of the Country.*—*Soil and Agriculture.*—*Rivers.*—*Lakes.*—*Mountains.*—*Botany.*—*Zoology.*—*Mineralogy.*

**CLIMATE AND SEASONS.]** **T**HE two first months of the Siamese year, which correspond with our December and January, form the whole winter of this country; the third, fourth, and fifth, belong to what is called their little summer; the seven others to their great summer †. Being on the north of the line their winter of course corresponds with ours; but is almost as warm as a French summer. The little summer is their spring; but autumn is absolutely unknown in their calendar. The winter is dry; the summer is moist: the former is distinguished by the course of the wind, which blows almost constantly from the north, refreshed with cold from the snowy mountains of Tibet, and the bleak wastes of Mongolia.

**FACE OF THE COUNTRY.]** This country, as already mentioned, is a wide vale between two high ridges of mountains, thus somewhat resembling Egypt on a wider scale. Compared with the Birman empire, the cultivated level is not above half the extent either in breadth or length. Nor do the Siamese seem so industrious as the Birmans, as their agriculture does not appear to extend far from the banks of the river and its branches; so that towards the mountains there are vast aboriginal forests filled with wild animals, whence the numbers of deer and other skins exported as merchandize. The rocky and variegated shores of the noble gulph of Siam, and the size and inundations of the Meinam, conspire with the rich and picturesque vegetation of the forests, illumined at night with crowds of brilliant fire-flies, to impress strangers with delight and admiration.

**SOIL.]** The soil towards the mountains is parched and unfertile, but on the shores of the river consists, like that of Egypt, of an extremely rich and pure mould, in which it is even difficult to find a pebble. It is in fact a muddy deposition, accumulating from early ages, and manured, as it were, by regular inundations, so as to produce exuberant quantities of rice. The country would be a terrestrial paradise, were it not subject to the most absurd despotism, which impoverishes itself, and may perhaps be classed among the worst of governments, being far inferior to that of their neighbours the Birmans.

**AGRICULTURE.]** Agriculture, as usual in the east, is simple and primitive. The chief product is rice of excellent quality; but wheat is not unknown, in lands at a distance from the inundations. Peas, and other

vegetables, also abound, without any violence or prejudice to the soil of the same land \*.

**RIVERS.]** The great river of waters, reigns in Siam, and rapid, always full, and Elbe †. He adds that the mountains which give birth to Cambodia and Pegu have greatly melted since the rains have commenced. The Siamese are indebted to their form of salutory.

The banks of the river are peopled from Yutha to the Sunderbunds of the Bay of Bengal on the fertile shores of the Andaman.

To the north of the river, but their names are not known.

**LAKES.]** In the north of Siam, the source to a river which is not navigable, but which others have called the Siamese geographers.

**MOUNTAINS.]** The kingdom of Siam is bounded on the east by the Bay of Bengal, and may be called the Siamese ridge, as the small ridge also passes through the north Siam terminus, and never to have reached the sea.

**FORESTS.]** The forests of Siam are of various kinds of valuable wood.

**ZOOLOGY.]** The deer, horses, and other animals, are not yet there are, or were, but the Siamese are of distinguished courage, and are treated with honour of such are royal. The Meinam is, at distance, and the trees are fully illuminated with light, as uniformly as in the night.

**MINERALOGY.]** The Siamese are mixed with a variable quantity of gold, by the Siamese are of various kinds, was sold through the Siamese, except that of Junk.

Near Louve was a mountain, nor were the Siamese islands. Among the Siamese, the Siamese are subject to Siam, the Siamese Forest's account, who have 500 tons of tin, and c

\* Dalrymple's Oriental Repertory, p. 118.

† Loubere, l. 58.

vegetables,

\* Loubere, lb. 50.



vegetables, also abound. Maize is confined to their gardens. From indolence or prejudice seldom more than one crop in a year is taken from the same land \*.

RIVERS.] The grand river Meinam, a name which signifies the *mother of waters*, reigns supreme among the Siamese streams. It is very deep and rapid, always full, and according to Kämpfer, larger than the Elbe †. He adds that the inhabitants suppose its source to be in the mountains which give rise to the Ganges, and that it branches through Cambodia and Pegu. The inundations are in September, after the snows have greatly melted in the northern mountains, and the rainy season has commenced. In December the waters decline, and sink by degrees to their former level. The water, though muddy, is pleasant and salutary.

The banks of the Meinam are generally low and marshy, but thickly peopled from Yuthia to Bankok, below which are wild deserts like the Sunderbunds of the Ganges. Monkeys, fire-flies, and mosquitoes, swarm on the fertile shores.

To the north of the Siamese dominions, some rivers join the Meinam; but their names are unknown, and they belong to the Birman territories.

LAKES.] In the east of the kingdom a small lake is delineated, giving source to a river which flows into that of Cambodia; and it is probable that others may exist near the mountains, though unknown to geographers.

MOUNTAINS.] The extensive ranges of mountains which inclose this kingdom on the east and west have been repeatedly mentioned. These may be called the Siamese chains, till the native names be ascertained. A small ridge also passes east and west, not far to the north of Yuthia. In the north Siam terminates in plains; nor does it even by conquest, seem ever to have reached the mountains on the Chinese frontier.

FORESTS.] The forests are numerous and large, and produce many kinds of valuable woods.

ZOOLOGY.] The chief animals of Siam are elephants, buffaloes, and deer. Horses seem little known or used, though found wild in Tibet; yet there are, or were, a few ill-mounted cavalry. The elephants of Siam are of distinguished sagacity and beauty; and those of a white colour are treated with a kind of adoration, as the Siamese believe the souls of such are royal. Wild boars, tigers, and monkeys, are also numerous. The Meinam is, at distant intervals of time, infested with small poisonous serpents; and the trees on its banks are, as already mentioned, beautifully illuminated with swarms of fire-flies, which emit and conceal their light as uniformly as if it proceeded from a machine of the most exact contrivance.

MINERALOGY.] There are some mines of gold, and others of copper, mixed with a variable proportion of gold; but the mines chiefly wrought by the Siamese are of tin and lead. The tin, called calin by the Portuguese, was sold throughout the Indies, but was soft and ill refined; all of it, except that of Junkfeylon, was a royal perquisite ‡.

Near Louve was a mountain of load-stone; fine agates abounded in the mountains, nor were sapphires unknown.

ISLES.] Among the numerous and minute isles which owe a doubtful subjection to Siam, Junkfeylon alone deserves mention. By Captain Forrest's account, who visited this isle in 1784, it annually exports about 500 tons of tin, and contains 12,000 inhabitants.

\* Loubere, ib. 50.

† Ib. l. 67. Fr. edit.

‡ Ib. l. 297.



THE other states of exterior India are Laos, Cambodia, Siampa, Cochin-China, and Tunquin; countries unimportant in themselves, and concerning which the materials are imperfect.

### LAOS.

ACCORDING to Kämpfer \* this was a powerful state, surrounded with forests and deserts; and difficult of access by water, because the river is full of rocks and cataracts. But by the newly discovered river of Anan the passage from Siam may perhaps be expedited. The soil is represented as fertile in rice; and Laos furnished the merchants of Cambodia with the best benzoin and lacca. Exquisite musk is also brought from Laos, with some gold and rubies; and the rivers boast of the fresh water maya, which yields pearls. The religion and manners resemble those of Siam; but in personal appearance the people of Laos resemble the southern Chinese.

The chief river is styled Meinam-Kong, which afterwards passes through Cambodia. In Mr. Dalrymple's valuable map of exterior India this grand stream is called the Kiou Long, or Maykaung; and Mr. Arrowmith derives it from the Tibetan alps, where it is styled the Satchou, and afterwards by D'Anville the Lan-tfan Kiang; which seems to identify it as implying the river of Lan-tfang, or Leng, the capital of Laos.

### CAMBODIA.

THIS country is also called Camboja and Camboge; and being partly maritime, is known by repeated descriptions. Like Siam, it is inclosed by mountains on the east and west, and fertilized by a grand river, the Maykaung, or Makon, which begins to inundate the country in June. Near its mouth it is full of low isles and sandbanks, so that the navigation is impeded, and there is no port nor town. The country is thinly peopled; and the capital called Cambodia, perhaps because we know not the native term, consists only of one street, with a single temple. The most peculiar product is the substance styled gamboge, or rather Camboge gum, yielding a fine yellow tint. Ivory also abounds, with several precious woods: and some add gold. The country is fertile in rice, and animal food. There are many Japanese settlers, with Chinese Malays, which last can scarcely be distinguished from the natives, who are of a dark yellow complexion, with long black hair.

### SIAMPA.

THIS small maritime tract is to the S.E. of Cambodia, from which it seems to be separated by a ridge of mountains. Mr. Pennant † informs us, from an old French narrative, that the people of this country are called Loyes; and are large, muscular, and well made; the complexion is reddish, the nose rather flat, the hair is black and long, the dress very slight ‡. The king resides at Feneri, the capital, and was tributary

\* l. 40.

† With D'Anville he spells the name Ciampa. Staunton, l. 664, puts Tsiampa, and says it appears from the sea as a sandy tract intersected with rocks.

‡ Outlines, iii. 81.

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• Churchill's Col. vol

\* Cochin-China. The productions are cotton, indigo, and bad silk. Their junks are well built, and are much employed in fishing.

### COCHIN-CHINA.

This country, presenting an extensive range of coast, has been visited by many navigators, who have supplied considerable materials for its description. The name is said to imply Western China, and appears to have been imposed by the early navigators, perhaps from the Malay appellation, while the native name remains unknown.

A considerable degree of civilization appears, and it is said that the people are of Chinese extract. The aboriginal savages, called Moos or Kemoos, are confined to the western range of mountains. As the shores abound with havens, the canoes and junks are numerous. The country is divided into distinct provinces, the capital being Hue-fo, about forty miles to the north of Turon, which is called Han-san by the natives.

The superior ranks are clothed in silk, and display the politeness of Chinese manners. The dress of both sexes is similar, being loose robes with large long sleeves; and cotton tunics and trowsers. A kind of turban covers the head of the men; but no shoes nor slippers are used. The houses are mostly of bamboo, covered with rushes or the straw of rice; and stand in groves of oranges, limes, plantains, and cocoa trees. Poultry abounds in the markets. An ardent spirit distilled from rice is in common use; they evince some skill in the manufacture of iron, and their earthen ware is very neat. The rainy season is during September, October, and November; and the three following months are also cold and moist, presenting the semblance of an European winter. The inundations only last two or three days, but happen once a fortnight in the rainy season. Borri's account bears that the rains only continue for three days regularly in each fortnight: if true, a singular phenomenon\*. March, April, May, form a delicious spring; while the heat of the three following months is rather excessive.

The horses are small, but active: there are also mules, and asses, and innumerable goats. The products of agriculture are rice of different qualities, yams, sweet potatoes, greens, pumpkins, melons. Sugar also abounds. Gold dust is found in the rivers: and the mines yield ore of singular purity. Silver mines have also been lately discovered. Both metals are used in ingots, as in China. The little trade is chiefly conducted by the Portuguese from Macao.

Mr. Pennant mentions tigers, elephants, and monkeys, as abounding in Cochin-China†; and that able naturalist adds, that the edible birds' nests, esteemed a luxury in China, are chiefly found in this country. They are formed by a species of swallows from some unknown viscous substance; and the Dutch used to export great numbers from Batavia, gathered in the oriental isles, and on the coasts of this country.

The Paracels form a long chain of small islands with rocks and shoals, parallel to the coast of Cochin-China.

### TUNQUIN.

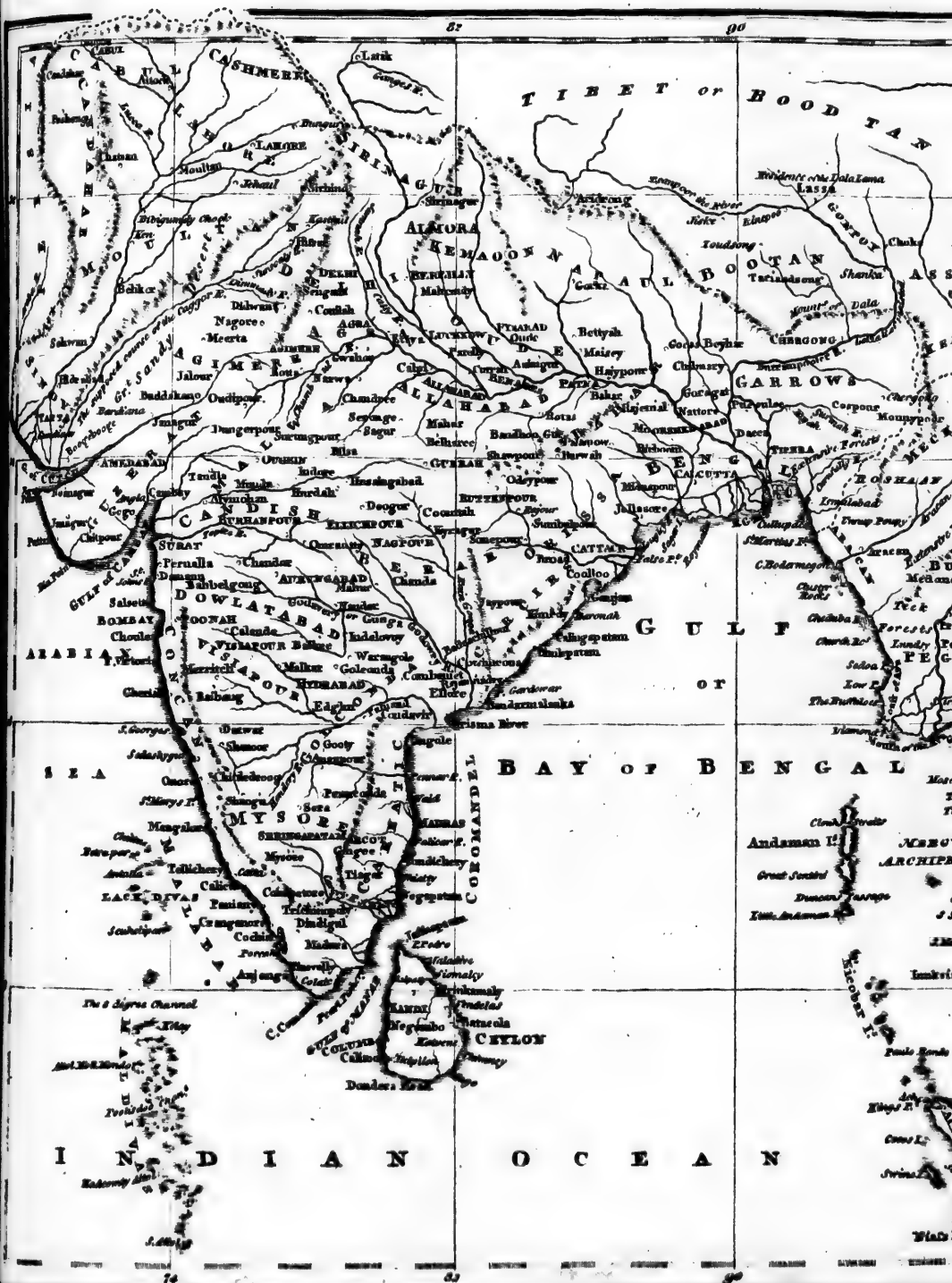
This country was only divided from the former by a small river, and may at present be considered as incorporated with it by conquest. The

\* Churchill's Col. vol. ii.

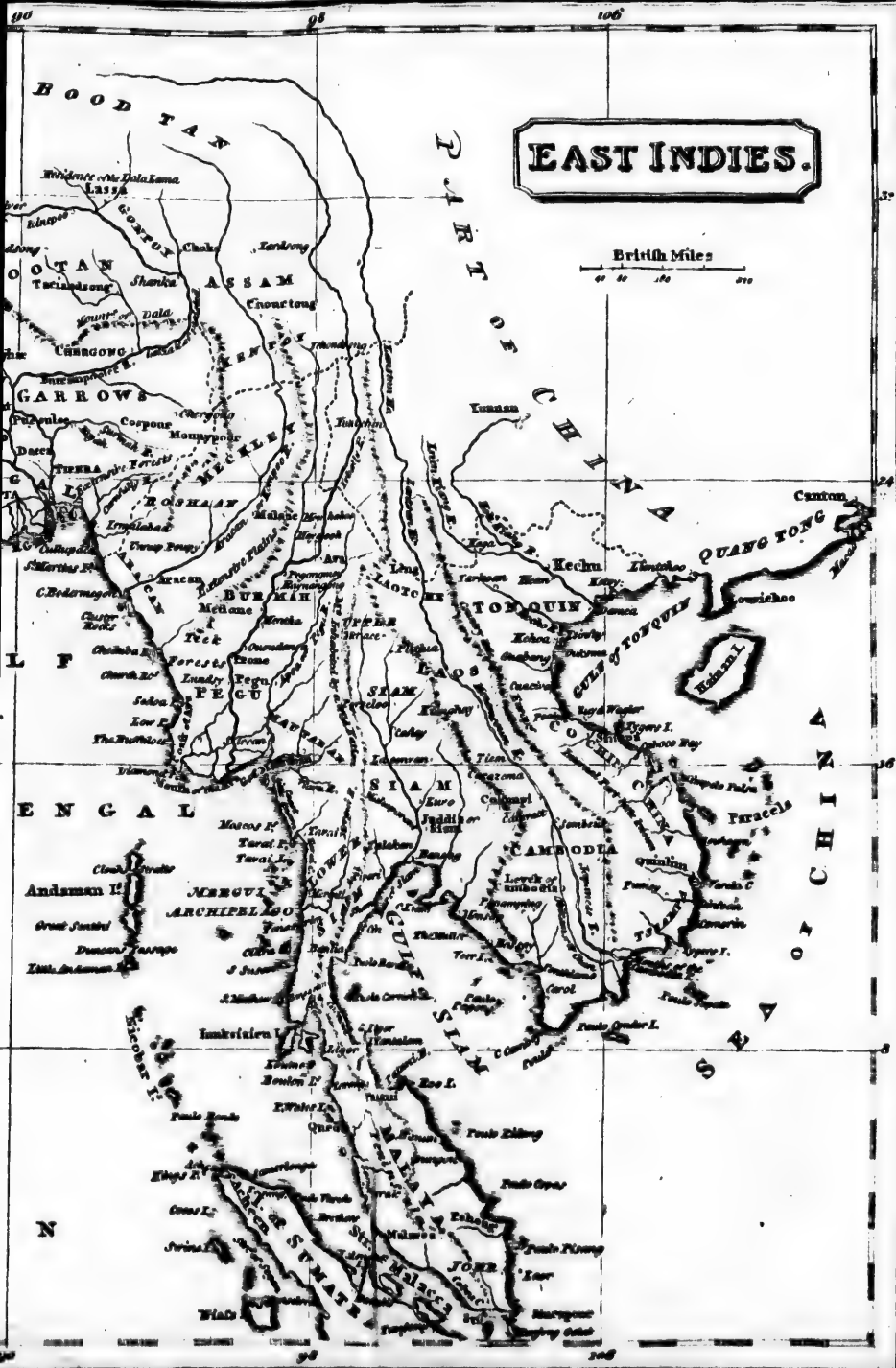
† Outlines, iii. 63.







From Arcowenites & Sheet Map of Asia  
Published March 1861, by Col. R. S. Dyer, Strand & Longman & Co. Ltd.



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2. That occupied by the course of the Sindé, Sindeh, or river Indus :  
 3. The track situated between the river Kistna and the two former divisions : 4. The countries to the south of the Kistna, or what is perhaps improperly called the southern peninsula, as no part of Hindostan can be styled a peninsula, in the modern acceptation of being nearly surrounded by the sea.

**GENERAL DIVISIONS.]** The general plan adopted by Major Rennell seems the best, not only in itself, as was to have been expected from his profound acquaintance with the subject, but as having the advantage of being familiar to the public, from the widely diffused reputation of his work. Amidst the want of important ranges of mountains, rivers alone can be assigned as natural divisions ; and as in Hindostan they do not form limits, the countries pervaded by their courses and tributary streams may be considered as detached by the hand of nature. Hence the Gangetic part of Hindostan, to use Mr. Pennant's term, includes the space from the confines of Tibet to the sources of the Chumbul and Sippra, and from the mountains near Agimere and Abugur hills, to the most eastern boundary of Hindostan.

That portion watered by the Sindé or Indus, and its subsidiary streams, may in like manner be termed Sindetic Hindostan ; and as a supplement to this division may be considered the country of Sirhind, and other tracts to the west of Gangetic Hindostan.

The southern part is encompassed by the sea, except on the north, where the river Kistna and its subsidiary streams form the boundary. In ancient times this portion was styled Deccan, a native term implying the south. But the Deccan of the Hindoos extended twice as far in a northerly direction, even to the river Nerbudda ; so that it would in fact, with the Gangetic and Sindetic divisions, nearly complete the whole of Hindostan. The term Deccan is therefore here used for the portion to the south of the Kistna.

That portion on the north of the Kistna, reaching to Gangetic Hindostan on the north and east, and the Sindetic with its supplementary provinces on the north and west, may be styled Interior or Central Hindostan.

In this arrangement the Gangetic part will include Bengal, Bahar, Allahabad, Oude, Agra, and a part of Delhi and Agimere. The Sindetic contains Kuttore, Cashmir, Cabul, Candahar, Lahore, Moul-tan, and Sindé.

The central division represents Guzerat in the west, with Candeish, Berar, Orissa, the Sircars, the chief part of Golconda, Vissapour, Dowlatabad, and Concan.

The southern division includes a small portion of Golconda, Mysore, the extensive region called in modern times the Carnatic, with Madura, and other smaller districts, the western coast being called that of Malabar, and the eastern that of Coromandel. In this part is naturally included the island of Ceylon.

**POLITICAL DIVISIONS.]** The next topic to be considered, in a general view of Hindostan, is its political situation as divided among various powers. Of these the English is at present preponderant, not only from European tactics, but from an actual extent of territory at least equal to that of any native power. To our former wide possessions in Gangetic Hindostan, with a large portion of the eastern coast from below the estuary of the Kistna to the lake of Chilka, and the detached government of N. dras, have been recently added extensive regions in the south and west of Mysore, with Seringapatam the capital, not to mention

mention Bombay and other detached establishments. And the large and important island of Ceylon has been wrested from the Dutch.

Next in consequence are the Maratta states, chiefly contained in the central division of Hindostan.

The Nizam, or Soubah of the Deccan, our firm ally, has considerably enlarged his territory in the south at the expence of Tippoo; the central part of whose dominions, except Seringapatam, is subject to the Raja of Myfore, a descendant of the race dethroned by Hyder, an usurper.

The British, the Marattas, and the Nizam, may be regarded as the three leading powers, to which may be added on the west, or on the Sindetic division, the Seiks and Zemaun Shah, or whatever prince holds the eastern division of Persia.

The following table, extracted, with a few alterations, from Major Rennell's Memoir, will convey a more complete and satisfactory idea of this important topic.

#### I. BRITISH POSSESSIONS.

1. Bengal and Bahar, with the Zemindary of Benares.
2. Northern Sircars, including Guntoor.
- \*3. Barra-Mahal, and Dindigul.
4. Jaghire in the Carnatic.
- \*5. The Calicut, Palicaud, and Coorga countries.

#### II. BRITISH ALLIES.

1. Azuph Dowlah. Oude.
2. Mahomed Alli. Carnatic.
3. Travancore, and Cochin.

#### III. MARATTA STATES.

##### POONA MARATTAS.

1. Malwa.
2. Candehi.
3. Part of Amednagar, or Dowlatabad.
4. Vifiapour.
5. Part of Guzerat.
6. ——— Agra.
7. ——— Agimere.
8. Allahabad.
9. Shanoor, or Sanore, Banca-pour, Darwar, &c. situated in the Dooab, or country between the Kistna and Tombudra rivers.

##### TRIBUTARIES.

1. Rajah of Jyenagur.
2. ——— Joodpour.
3. ——— Oudipour.
4. ——— Narwah.
5. ——— Gohud.
6. Part of Bundelcund.
7. Mahomed Hyat. Bopaltol.
8. Futty Sing. Amedabad.
9. Gurry Mundella, &c. &c.

##### BERAR MARATTAS.

1. Berar.
2. Orissa.

##### TRIBUTARY.

Bembajee.

\* The countries thus marked, are acquisitions from Tippoo Sultan under the late treaty of Seringapatam. To which must now be added Calmbetore, Canara, and other districts acquired in 1799. See Rennell's Supplementary Map, dated 5th April 1800.

#### IV. NIZAM

1. Golconda.
2. Aurunga.
3. Beder.
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## IV. NIZAM ALI, SOUBAH OF THE DECCAN.

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|------------------------------------|-----------------------------------------|
| 1. Golconda.                       | Combam) and Gandicotta (or Ganjecotta). |
| 2. Aurungabad.                     |                                         |
| 3. Beder.                          | 7. Part of Gooty, Adoni, and Canoul.    |
| 4. Part of Berar.                  |                                         |
| 5. ——— Adoni, Rachore, and Canoul. | 8. Part of the Dooab.                   |
| 6. Cuddapali. Cumnum (or           | [9. Other districts acquired in 1799.]  |

## V. SEIKS.

Lahore, Moulton, and the western parts of Delhi.

As the other great power chiefly extends over Persia, and may be regarded as foreign, it only remains to mention the small states.

1. Successors of Zabeda Cawn. Schaurunpour.
2. Jats.
3. Pattan Rohillas. Furruckabad.
4. Adjig Sing. Rewah, &c.
5. Bundelcund, or Bundela.
6. Little Ballogistan.

To which may now be added the Raja of Mysore.

The British possessions prior to the fall of Tippoo, 1799, were supposed to contain 197,496 square British miles, being about 60,000 more than are comprised in the united kingdoms of Great Britain and Ireland: the number of inhabitants was computed at ten millions. The acquisition in 1799 probably adds 15,000 square miles, and the population subject to Great Britain is supposed to be 12 or 14,000,000. The net revenue exceeded three millions before the cessions by Tippoo in 1792, computed at 400,000l.; while those in 1799 do not appear much to exceed half that sum. This great power and revenue of so distant a country, maintained in the midst of a highly civilized foreign nation, is perhaps unexampled in ancient or modern times.

The Marattas are divided into two states or empires, that of Poona, or the western, and Berar, or the eastern: each ruled by a number of chiefs or princes, who pay a nominal obedience to the paishwa, or sovereign. An account of the Marattas belongs to the central division of Hindostan. The Seiks, a new religious sect, first appeared in the middle of the seventeenth century, and have gradually become formidable to the neighbouring states. The Jats, or Jets, were a tribe of Hindoos, who about a century ago erected a state around the capital Agra. The Afghans, another peculiar people, originated from the mountains between Persia and India.

Before closing these general considerations with regard to this extensive country, it may be proper to observe that the name of Hindostan has been considered as synonymous with the empire of the great Mongul. But the power of the Monguls, which commenced under Baber, 1518, was most eminent in the northern parts, the Deccan, or south, remaining unsubdued till the time of Aurunzeb, 1678, when that region, with what is called the peninsula, a few mountainous and inaccessible tracts only excepted, were either vanquished or rendered tributary to the throne of Delhi\*. When Aurunzeb died in 1707, in his 90th year, the Mongul empire had obtained its utmost extent from the 10th to the 35th degree of latitude, (about 1750 British miles,) and about as much in length;

\* Rennell's Memoir, page 121.

the revenue exceeding thirty-two millions sterling, in a country where provisions are about four times as cheap as in England. The number of his subjects may be computed at about sixty millions. But this great power declined so rapidly, that within fifty years after his death it may be said to have been annihilated, and the empire of the great Mongul has vanished from modern geography.

The plan to be pursued, in the subsequent brief account of Hindostan, has been above indicated as divided into four parts; the region on the Ganges, those on the Indus, the central, and the southern. In three of these divisions the British possessions are powerful, if not predominant; and it is difficult to connect the political with the natural geography. Doubts may justly arise whether the British territories ought not to form a separate and distinct portion, in a perspicuous arrangement, this being another of the peculiar difficulties which attend the geography of Hindostan. But as the grand mass of the population in these settlements consists of native Hindoos, and the natural geography of the country must not be sacrificed to any extraneous consideration, it still seems preferable to abide by the division already laid down. Hence that form of description must be chosen which, resting on the perpetual foundations of nature, cannot be injured or obliterated by the destinies of man.

These considerations being premised, a similar arrangement shall here be followed in describing Hindostan, a labyrinth of eastern geography, with that used in delineating Germany, that labyrinth of European geography. A general view of the whole region shall be followed by successive chapters on each of the above divisions; in which the several states, chief cities, and other geographical topics, shall be briefly illustrated.

## CHAPTER I.

### GENERAL VIEW OF HINDOSTAN.

*Name.—Boundaries.—Original Population.—Progressive Geography.—History.—Chronology.—Historical Epochs.—Ancient Monuments.—Mythology.—Religion.—Government.—Laws.—Population.—General Revenues.—Political Importance.—Manners and Customs.—Language.—Literature.—Ancient Civilization.—Universities.—Inland Navigation.—Manufactures.—Native Products.—Climate and Seasons.—General Face of the Country.—Soil.—Rivers.—Lakes.—Mountains.—Deserts.—Forests.—Botany.—Zoology.—Mineralogy.—Mineral Waters.—Natural Curiosities.*

**NAME.]** THE native name of this celebrated country is said to be in the ancient Sanscrit language Bharata\*. That of Hindostan seems to have been imposed by the Persians, and derived, like the classical name India, from the great western river, with the Persian termination *Tan* or *Stan*, which signifies a country. It was long known, as already mentioned, by the name of the empire of the Great Mogul, because it was then subject to Mongul emperors, successors of Timur.

**BOUNDARIES.]** This portion of Asia extends from Cape Comari,

\* Rennel, m. from Wilkins; but the proper native term seems to be Medhyama, and Bharat was the first king. *As. Res.* i, 419,

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called by navigators Comorin, in the south, to the mountains which form the northern boundary of Cashmir; that is, according to the most recent maps, from about the 8th to about the 35th degree of northern latitude, being twenty-seven degrees, or 1620 g. miles, nearly equal to 1890 British. The northern boundary may be yet farther extended to the Hindoo Koh, and mountains running E. and W. on the north of the province of Kuttore.

From the river Araba, on the west of the province of Sinde, to the mountains which divide Bengal from Cassay and the Birman dominions that is, from about the sixty-sixth to the ninety-second degree of east longitude from Greenwich, there are 26°, which in the latitude of 25° constitute a breadth of more than 1400 g. miles; or 1600 British. Comparatively, if we exclude Scandinavia, the former kingdom of Poland, and the Russian empire, the extent may be considered as equal to that of the remainder of Europe.

The boundaries are marked on the north by the mountains above mentioned. On the west, towards Persia, other ranges and deserts constitute the frontier till the southern separation ends in the river Araba. The other boundaries are supplied by the Indian ocean and Bay of Bengal, where the eastern extremity is limited by the little river Naaf, and those mountains which divide the British possessions from Aracan, Cassay, and Cashur. The northern boundary generally consists of the southern ridges of the Tibetan Alps. On the N. E. of Bengal a similar ridge divides Hindostan from the small territory of Afam, which seems an independent state, never having formed a portion of Hindostan, of dubious connection with Tibet, and as yet unsubdued by the Birman.

ORIGINAL POPULATION.] The original population may be generally considered as indigenous, or, in other words, peculiar to the country. Yet in so extensive a region, and amidst the great diversity of climate and situation, the native race presents considerable varieties, especially as being fairer in the northern parts, and in the southern almost or wholly black, but without the negro wool or features. Still the tinge of the women and superior classes is deep olive, with sometimes a slight and agreeable mixture of the ruddy, and the Hindoo form and features may be said to approach the Persian or European standard. The sole ancient conquests of Hindostan having proceeded from the N. W. and west, there may be some slight admixture of the Persians, of the Greeks of Bactriana, and of the ancient Scythians. More recently Mahmud of Ghizni introduced a group of Mahometans of various origins. The Patans or Afgans proceeded from the mountains towards Persia, being asserted to be a tribe of Albanians who emigrated to the eastward. The Monguls are well known to have included many Tatars, and Mahometan tribes from the east of the Caspian. These, with the Arabs and Persians, are generally called Moors.

PROGRESSIVE GEOGRAPHY.] The progressive geography of Hindostan may be said to begin with the victories of Alexander the Great. After the age of this prince many Greek and Roman authors, particularly Strabo, Arrian, and Pliny, have left information concerning the state of India. One of the most important ancient records is the description and map of Ptolemy, but they are so much distorted as to embarrass the most learned inquirer. Far from representing India in its just form, as stretching far to the south, he supposes the ocean to flow from the gulph of Cambay, almost in a line to the lake of Chilka, thus immersing under the waves a third part of Hindostan. At the same time he assigns to the island of Taprobana, or Ceylon, an enormous and fabulous extent.



A similar instance indeed occurs in Bishop Leslie's map of Scotland, in which the isle of Hirta or St. Hilda is represented as three times as large as Mull; and perhaps the extent of Taprobana was in like manner swelled from its celebrity; or drawn by some mariner and followed by Ptolemy in his description, without observing the size of the scale.

This celebrated country received little farther illustration till the sixth century: the intelligence however of Cosmas is of no consequence, except as it elucidates the Persian traffic with India. Some materials may also be derived from the accounts of the Mahometan travellers in the ninth century, and the oriental works of geography; nor was the great English king, Alfred, incurious concerning this celebrated region\*. Marco Polo, the father of eastern geography as known to Europeans, was followed by other travellers; and at length the Portuguese discovery of the Cape of Good Hope gradually led the way to the precision of modern knowledge, to which a recent geographer, Major Rennell, has contributed with great success and deserved celebrity.

**HISTORY.]** The history of Hindostan is a most obscure and embroiled subject, as either no native chronicles were written, or they were destroyed by the Bramins, anxious to obliterate the memory of former and happier ages, when their inordinate power was not established. Sir William Jones and Anquetil du Perron have bestowed some attention on this subject; but their investigations are more interesting to the antiquary than to the general reader†. The native traditions seem to describe the northern part of Hindostan as subject to one raja or sovereign, which is little probable, as the most ancient extraneous accounts represent this wide country divided, as was to be expected, into many monarchies. By all accounts, however, the Deccan, or southern part, was subject to a distinct emperor, even to modern times. "Its emperors of the Bahmineah dynasty (which commenced with Hassan Caco, A.D. 1347), appear to have exceeded in power and splendour those of Delhi, even at the most flourishing periods of their history. The seat of government was at Calberg, which was central to the great body of the empire, and is at this day a considerable city. Like other overgrown empires, it fell to pieces with its own weight, and out of it were formed four potent kingdoms, under the names of Visiapour (properly Bejapour), Golconda, Berar, and Amednagur, of whose particular limits and inferior members we are not well informed. Each of these subsisted with a considerable degree of power until the Mogul conquest; and the two first, as we have seen above, preserved their independency until the time of Arungzebe‡."

**CHRONOLOGY.]** The Hindoo Chronology, published by Anquetil du Perron, is that of the rajas or sovereigns of Bengal; and the most remarkable facts are repeated invasions by the Persians, one of them supposed to be fourteen centuries before the Christian era. This kingdom of Bengal seems to have included almost the whole of Gangetic Hindostan. But the names and extent of the early kingdoms of Hindostan are little known or investigated.

**HISTORICAL EPOCHS.]** The Hindoo epochs, consisting of millions of

\* The Saxon chronicle, and other English writers, mention that Suithelm, bishop of Shireburn, carried a present from Alfred to the shrine of St. Thomas in India, and returned in safety with some curiosities from the country. This Thomas was not the apostle, but some Nestorian missionary; and his shrine is at Melapour, near Madras, on the coast of Coromandel. Alfred little foresaw that an English settlement was to invade this holy ground.

† Asiatic Researches, vol. ii. and Bernoulli's Collection concerning India. Berlin, 1786, 4to. tome ii.

‡ Rennell, ixix.

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years, and other fabulous circumstances, have hitherto attracted more attention than a clear arrangement of the Hindoo sovereignties, and an account of the most authentic facts that can be recovered concerning them. While these chronologies differ by one or two thousand years concerning the incarnation of Budha, we may judge of their exactness in less important events.

The Hindoos never seem to have boasted of one native historian, and the best materials are derived from Persian Memoirs; from which Ferishta, himself, a Persian, compiled his histories of Hindostan towards the beginning of the seventeenth century. Indeed in the whole complex maze of Hindoo literature there is a striking deficiency of good sense\*. In this defect of native records we must be contented with the epochs derived from foreign sources.

1. The invasion by Alexander the Great, who found Western India divided among numerous potentates, though he advanced little farther than Lahore. If even the northern half of Hindostan had been subject to one sovereign, as fabled in the native tales, the circumstance would have been clear and apparent.

2. At a long interval appears the conquest of the north-western part by Mahmoud of Ghizni, A.D. 1000.

3. The dynasty of the Patan, or Afghan emperors, begins with Cattub, A.D. 1205, and ends with Mahmoud III. 1393.

4. The Great Moguls, or Mongul emperors, begin with Babar, 1525; and continued, with a short interruption, by the Patans to Shah Aulum, to 1760.

The invasion by Timur, and, at a distant interval, that by Nadir, also form remarkable epochs in the history of this passive country. The latter may be said to have virtually dissolved the Mogul empire. The Portuguese settlements were followed by those of the Dutch. The French power began to predominate in 1749, but speedily closed in 1761, with the loss of their principal settlement, Pondicherry. As merchants, the English had long held small settlements in Hindostan; but the expedition into Tanjore, 1749, was the first enterprize against a native prince. Other contests followed concerning Arcot in the kingdom of Carnada, or what we call the Carnatic. In 1756 the fort of Calcutta, our chief settlement in Bengal, was taken by the nabob, and many of our brave countrymen perished in a shocking manner, from being confined in a small chamber. The battle of Plassey, fought in June 1757, laid the foundation of the subsequent power of Britain. Lord Clive, governor of Bengal, 1765, obtained a grant from the nominal Mogul of Bengal, Bahar, and part of Orissa, on condition of an annual tribute. Soon after the English were engaged in a contest with Hyder Ali, a soldier of fortune, who had dethroned the lineal sovereign of Mysore, and extended his conquests to the adjacent territories. Some conflicts followed on the confines of Carnada and Mysore; but the event was little advantageous to either party. Hyder, dying in 1783, was succeeded by his son Tippoo, who seems to have been a prince of inferior abilities, and expiated his ill arranged plans by his death, and the partition of his territories, in 1799.

\* Mr. Bentley observes, *As. Ref.* v. 315, that the Hindoo eras and dates are all blended together into one mass of absurdity and contradiction. A curious instance of this appears with regard to the celebrated temples of Ellora, and the singular forests of Deoghur, or Dowlatabad, formed on a high conic rock; for the Mahometans, whom we Europeans regard as rather extravagant in chronology, say that they were erected 900 years ago; while the Brahmans affirm that they have stood not less than 7094 years! *As. Ref.* vi. 363.

The Bengal provinces have been in our possession since 1765; and Benares was added in 1775. This portion might constitute a considerable kingdom, and is sufficiently compact and secure by natural advantages, independently of a formidable force. The Sircars, or detached provinces, partly belong to Golconda, and partly to Orissa, forming a long narrow slip of country from twenty to seventy-five miles wide, but about three hundred and fifty in length. The word Sircar is almost synonymous with an English county, implying a division of a Souba, or great province; and these detached Sircars or counties, being to the north of Madras on which they are dependent, are commonly styled the northern Sircars\*. In 1754 they were acquired by the French; and conquered by the English under Colonel Clive in 1759.

The English settled at Madras about the year 1640; and their territory here extends about a hundred and eight British miles along the shore, and forty-seven in breadth, in the centre of the ancient kingdom of Carnada. The recent and extensive acquisitions in the south have been already mentioned.

Nor among the modern historical epochs of Hindostan must the celebrated battle of Panniput, not far to the N.W. of Delhi, be omitted, which was fought in 1761, between the Mahometans under Abdalha king of Candahar, and the Marattas, in which the latter were defeated; the Mahometans were computed at 150,000, and the Marattas at 200,000.

ANCIENT MONUMENTS.] The ancient monuments of Hindostan are very numerous, and of various descriptions, exclusive of the tombs and other edifices of the Mahometan conquerors. Some of the most remarkable are excavated temples, statues, relievos, &c. in an island near Bombay†. The idols represented seem clearly to belong to the present mythology of Hindostan; but at what period these edifices were modelled, whether three hundred or three thousand years ago, must be left in the darkness of Hindoo chronology. Several ancient grants of lands, some coins and seals, have also been found. Yet all these remains little correspond with the exaggerated ideas entertained concerning the early civilization of this renowned country; while the Egyptian pyramids, temples, and obelisks, strongly confirm the accounts preserved by the ancient historians.

MYTHOLOGY.] Though the mythology of the Hindoos may pretend to great antiquity, yet their present form of religion is supposed to vary considerably from the ancient. It is inferred that while the religion of Boodha, still retained by the Birmans and other adjacent nations, was the real ancient system of Hindostan, the artful Bramins have introduced many innovations in order to increase their own power and influence. In a system so full of imagination it is no wonder that the analyses are sometimes discordant, but it appears that the fabric rests on that almost universal system of the east, the belief in a supreme Creator too ineffable and sublime for human adoration, which is therefore addressed to inferior, but great and powerful divinities.

RELIGION.] The religion of the Hindoos is artfully interwoven with the common offices of life; and the different casts are supposed to originate from Brahma, the immediate agent of creation under the supreme power, in the following manner:

The *Brahmin* from the mouth (wisdom): To pray, to read, to instruct.

\* Rennell, exactly.

† As. Res. vol. i. and vi.

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The *Chehtere*, from the arms (strength) : To draw the bow, to fight, to govern.

The *Brice*, from the belly or thighs (nourishment) : To provide the necessaries of life by agriculture and traffic.

The *Sooder*, from the feet (subjection) : To labour, to serve\*.

The ancients sometimes enlarged the number of these casts, or perpetual orders of men, by an erroneous subdivision of two or more, yet it is impossible to read their accounts without perceiving that the casts themselves existed from time immemorial, but with one important variation. For it would appear that in ancient times the Brahmans like the priests, or monks of Ava, Siam, and other states which still follow the worship of Boodh, were not hereditary or a distinct Levitical tribe, but that any member of the other casts might enter into this order, which was of course deemed inferior to the chief secular or military cast. At present the meanest Brahmin will not condescend to eat with his sovereign. Setting the ridiculous and fanciful tales of this interested tribe wholly out of the question, it would appear that in the usual circle of human affairs, a contest had arisen between the regal and ecclesiastical powers. The latter, instead of being subdued, as in China and Japan, acquired the superiority, as in Tibet. But in Hindostan, from a most refined and cunning policy, the priesthood asserted the divine institution of the several casts, and as was natural, pronounced their own to be the supreme, and possessed of innate and hereditary sanctity.

GOVERNMENT.] Hindostan is now divided into many governments, the form of which must be considered in describing the several states. Suffice it here to observe that though the Bramins be the most dignified cast, yet there do not seem to have been one or more high priests, as in the surrounding countries. The sovereignty was abandoned to the military cast, and the monarch was presumed to be the proprietor of all the lands, except those belonging to the church. The Ryots held their possessions by a lease at a fixed rate, and considered as perpetual. The Zemindars were, in the opinion of some, only collectors of the royal rents from the Ryots or farmers; but according to others the Zemindars were landed gentlemen, who had a hereditary right to these rents, upon paying a settled proportion to the crown.

LAWS.] The laws of the Hindoos are intimately blended with their religion, and the curious reader may consult the code, translated and published by the direction of Mr. Hastings.

POPULATION.] The population of this extensive part of Asia is supposed to amount to sixty millions, of which the British possessions may now perhaps contain a quarter, especially as frequent recent conflicts have thinned the population in many other parts of Hindostan. When it is considered that China is about one quarter less than Hindostan, and yet is said to contain three hundred and thirty millions, we may judge of the boasted effects of Hindoo philosophy, more fit for the visionary call of the recluse than to promote universal spirit and industry.

GENERAL REVENUES.] The general revenues of Hindostan were computed in the time of Aurunzeb, as already mentioned, by a precise calculation of those of the several provinces, at thirty two millions sterling; equal perhaps, considering the comparative price of products, to one hundred and sixty millions sterling in modern England.

POLITICAL IMPORTANCE.] The political importance and relations of

\* Robertson's Disquisition, p. 338.

Hindostan are now divided among many powers. So miserable was the internal constitution, that this wide and populous country, defended on all sides by ranges of mountains, has in all ages fallen a prey to every invader. The fantastic institutions, like those of the ancient Persians, prevent the Hindoos from forming a maritime power; and even the small fleets of Siam and Pegu, which follow the more liberal doctrines of Beodh, seem unrivalled in the history of Hindostan.

**MANNERS AND CUSTOMS.]** The manners and customs of the Hindoos are intimately blended with their religion, and are universally similar, with a few exceptions in mountainous and other peculiar districts. One of the most singular begins to expire, that of giving the living widow to the same flames with her husband's corpse. The ancients represent the Bramins as accustomed to terminate their own lives on funeral piles lighted by themselves. But by what refinement of cruelty this custom was extended to involuntary and helpless females has not appeared; perhaps the cause was to enforce the preservation of their husband's health by making their life depend on his. But this and other monstrous institutions of the Bramins are treated with lenity and even respect by many authors, who seem to inherit the Greek astonishment at these fanatics.

The other manners and customs of the Hindoos have been illustrated by many travellers. As soon as a child is born it is carefully registered in its proper cast, and astrologers are consulted concerning its destiny; for the Hindoos, like the Turks, are strict predeterminers. A Bramin imposes the name. The infant thrives by what we would call neglect; and no where are seen more vigour and elegance of form. The boys are generally taught reading and writing by Bramins, but the girls are confined at home till their twelfth year\*. Polygamy is practised, but one wife is acknowledged as supreme. It is well known that the Hindoos are extremely abstemious, and wholly abstain from animal food and intoxicating liquors; yet if we judge from the fanatic penances, suicides, and other superstitious frenzies, no where on earth is the mind so much disordered. The houses are built of earth or bricks, covered with mortar, and sometimes with excellent cement, with no windows, or only small apertures. There is generally only a ground floor, inclosing a court, with a small gallery supported by slight wooden pillars. The amusements consist of religious processions; but though dancing girls abound, yet theatrical exhibitions do not seem so common as in the countries farther to the east.

**LANGUAGES.]** The general ancient language of Hindostan is believed to have been the Sanscrit, an original and refined speech, compared by Sir William Jones with the Greek and Latin. The more common dialects are chiefly the following †:

1. That of Kandia in the interior of Ceylon, which is said nearly to resemble the Sanscrit.

2. The Tamulac used in the Deccan, or southern part, in Madura, Myfore, and some parts of the Malabar coast.

3. The Malabar language, extending from cape Comari to the mountain Illi, which divides Malabar from Canara.

4. That of Canara which extends as far as Goa.

5. The Marashda language. It is prevalent throughout the whole country of the *Marashdi*, who are very improperly called *Marattas*.

6. The Talenga, an harmonious, nervous, masculine, copious, and learned language, which, like the Sanscrit, has fifty-two characters;

\* See a voyage to the East Indies by Fra. Paolino da San Bartoldomeo, 1600, 8vo. The author's lay name was Wessdin, an Austrian.

† Wessdin, 317.

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and these are sufficient to write the latter. It is spoken on the coast of Orixá, in Golconda, on the river Kishna, and as far as the mountains of Balangat. All these languages have their own alphabets: so that in every province you must make yourself acquainted with a distinct kind of characters, if you wish to express your thoughts in the dialect common in each.

" 7. The common Bengal language: a wretched dialect, corrupt, in the utmost degree. It has no V, and instead of it employs the B. It is spoken at Calcutta, and in Bengal on the banks of the Ganges.

" 8. The Devangaric or Hindostan language, called by some Nagru, Nagari, and also Devanagari. It is spoken at Benares, at Venares, and consists of fifty-two characters, with which the Sanscrit may be written.

" 9. The Guzaratic, which has been introduced not only into the kingdom of Guzarat, but also at Barfche, Surat, Tatta, and the neighbourhood of the Balangat mountains. Its characters are little different from those of the Devanagari.

" 10. The Nepalic, which is spoken in the kingdom of Nepal, and has a great similarity to the *Devanagari*."

[LITERATURE.] The literature of Hindostan doubtless contains several valuable and curious monuments; but their epochs are extremely uncertain. There seems no chronology of authors who successively quote or mention each other; and there is not even any great land mark, like the age of Confucius among the Chinese. Hence little else than confusion and contradiction are to be found in the numerous accounts published of Hindoo literature.

The most important books are the Vedas; there are also some epic poems which pretend to contain fragments of genuine history. "The most ancient called Ramayana, was written by Valmici; and next in celebrity is the Mahabarat of Vyasa, who is said to have been the author of some Puranas, and of course could not have flourished above seven hundred years ago; and it is probable that the more ancient poem cannot aspire to a much higher date. It is a great singularity that the old Hindoo grants of land, many of which have been translated and published, are extremely long, and in a strange poetical or inflated style, some of the compound words consisting of not less than one hundred and fifty syllables! When we compare these singularities with the brevity and clearness of the Greek and Roman inscriptions, and the unbiassed dictates of plain good sense, we are led to conclude that the Hindoos are the puerile slaves of a capricious imagination. And though some translations of their best works have already appeared, they have not acquired the smallest degree of European reputation; and have very little interested a few curious inquirers, though eager to be pleased. To compare such tedious trifles, alike destitute of good sense, vigorous genius, or brilliant fancy, with the immortal productions of Greece or Rome, would only confirm the idea, that the climate itself impairs judgment while it inflames imagination.

The Hindoos are ignorant of the Chinese art of printing, nor have we any rules for determining the antiquity of their manuscripts. To an exact inquirer this would have been the first topic of investigation: but it has on the contrary been completely neglected. We have merely the bold assertions of Bramins, early imbibed by European credulity, instead of successive arguments and proofs.

[ANCIENT CIVILIZATION.] The ancient civilization of the Hindoos has probably been greatly exaggerated both with regard to its degree, and the



the length of its duration, they are nevertheless at present in general highly civilized, and of the most gentle and amiable manners. But perhaps in no art or science are they equal to the Chinese or Japanese; and in most are confessedly greatly inferior.

UNIVERSITIES.] The chief university in the north is that of Benares, a most celebrated and ancient school, now included in the English possessions. In the Deccan the academy of Tricium, on the Malabar coast, is also in great repute. "At *Cangiburam*, in *Carnate*, there is still a celebrated Brahman school, which according to the testimony of Ptolemy, existed in the first century of the christian era; and its members are certainly equal in celebrity to the Brahmans of *Venares*, or *Benares*.\* It is to be hoped that our recent acquisitions in the south will lead to the discovery of new literary treasures in that quarter, where it is to be expected that native knowledge is more pure and perfect than in the north, where it was so long trampled under foot by the Mahometan conquerors.

INLAND NAVIGATION.] With respect to inland navigation, Hindostan forms a striking contrast with China. In the fourteenth century Feroz III. of the Patan dynasty, ordered some short canals to be dug in the neighbourhood of Delhi; and had an intention as is said of uniting the Ganges with the Indus, or *Setlege*. This intended canal, which would not have been above one quarter the length of the great canal of China, has been praised as a grand and wonderful design; a sufficient proof of the great inferiority of the Hindoos, and their Mahometan victors, in the solid and useful arts.

MANUFACTURES.] The manufactures of Hindostan have been celebrated from early antiquity, particularly the muslins and other fabrics from cotton. Piece goods, as we call them, are mentioned by the author of the *Periplus*, and other ancient writers, who praise the manufacture and the beautiful colours with which it was dyed. The Hindoos, in the time of Strabo, were also noted for elegant works in metals and ivory. Nor is Hindostan celebrated at this day for any manufacture, except those of muslins and calicoes, the other exports consisting of diamonds, raw silks, with a few wrought silks, spices, drugs, &c. The shawls of Cashmir are also deservedly esteemed; being there woven from a material chiefly supplied by Tibet. Painting is in its infancy; and they are strangers to shade and perspective. Sculpture is as little advanced as painting, the design and execution being alike bad; yet the temples are sometimes majestic and solemn. In most trades very few tools are employed. The simple loom is reared in the morning under a tree, and carried home in the evening.

NATIVE PRODUCTS.] But it is the abundance of native products, which has in all ages rendered Hindostan the centre of great trade. Diamonds, and some other precious stones, are products almost peculiar; as well as many spices, aromatics, and drugs. In modern times the tea and porcelain of China, and other oriental articles, have been vaguely included among those of the East Indies. But rice, sugar, and many articles of luxury are products of Hindostan.

CLIMATE AND SEASONS.] The climate and seasons are considerably diversified by difference of latitude, and local situation. Yet in general, though the northern Alps of Tibet be covered with perpetual snow, there is some similarity of climate through the wide regions of Hindostan. In Bengal the hot, or dry season begins with March, and continues to the

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end of May, the thermometer sometimes rising to  $110^{\circ}$ : this intense heat is sometimes interrupted by violent thunder storms from the north-west, the seat of the grand Alps of Asia. The rainy season continues from June to September: the three last months of the year are generally pleasant: but excessive fogs often prevail in January and February. The periodical rains are also felt in Sindetic Hindostan, except in Cashmir, where they seem to be excluded by the surrounding mountains. In the rest of Hindostan they almost deluge the country, descending like cataracts from the clouds, and the Ganges and other rivers spread to a wide extent, the inundation ceasing in September. By the latter end of June the Ganges has risen fifteen feet and a half, out of thirty-two, which is the total of its overflow \*. In the mountains the rainy season begins early in April; but rarely in the plains till the latter end of June. "By the latter end of July all the lower parts of Bengal, contiguous to the Ganges and Burrampooter, are overflowed, and form an inundation of more than a hundred miles in width; nothing appearing but villages and trees, excepting very rarely the top of an elevated spot (the artificial mound of some deserted village) appearing like an island."

In the southern division of the chains of the Gauts, or mountains of Malabar and Coromandel, supporting the high table land in the centre, intercept the great mass of clouds; and the alternate S.W. and N.E. winds, called the Monsoons, occasion a rainy season on one side of the mountains only, that is, on the windward side. Yet it appears that during the first part of the rainy monsoon, in May and June, on the coast of Malabar, a considerable quantity of rain falls in the upper region or table land of Mysore. The monsoon is from the N.E. from October to April; and from May to September in the opposite direction. The rainy season on the coast of Coromandel is with the N.E. monsoon; and on that of Malabar with the S.W.: in general, March, April, May, and June are the dry months.

Hence, while in Tibet the winter nearly corresponds with that of Switzerland and the rest of Europe, in the whole extent of Hindostan, except in Cashmir, there can hardly be said to be a vestige of winter, except the thick fogs of our November: and excessive rains, or excessive heats, form the chief varieties of the year.

**GENERAL FACE OF THE COUNTRY.]** The aspect of this wide country is extremely diversified; but in general there are no mountains of any considerable height, the highest Gauts in the south not being estimated at above three thousand feet. The frontier mountains of Tibet are of small elevation, compared with those of the interior of that country; and the wonderful extent of Hindostan consists chiefly of extensive plains, fertilized by numerous rivers and streams, and interspersed with a few ranges of hills. The periodical rains and intense heats produce luxuriance of vegetation, almost unknown to any other country on the globe; and the variety and richness of the vegetable creation delight the eye of every spectator.

**SOIL.]** The soil is sometimes so excellent as to consist of black vegetable mould to the depth of six feet. Rice is the chief grain; and on the dry sandy lands of the coast of Coromandel great industry is displayed in watering it †.

Maize and the sugar-cane are also favourite products. Extreme attention to manure seems far from being so general as in China or Japan; nor perhaps is it necessary. The cultivation of cotton is also widely

\* Rennell, 349.

† Sonnerat, l. 106.

diffused; and this plant particularly thrives on the dry coast of Coromandel.

**RIVERS.]** In describing the large and numerous rivers of Hindostan, the Ganges and Indus shall be first considered, with their chief tributary streams; and a short account of the principal rivers in the central part shall be followed by those in the southern division. This arrangement naturally arises from the four grand divisions formerly mentioned.

The Ganges must still be considered as the sacred sovereign of the Hindoo rivers, an attribute not infringed by the recent discovery of the Burrampooter. It receives such a number of important tributary streams, that its magnitude exceeds what might have been expected from the comparative length of its course; which may, however, be estimated at about, fourteen hundred British miles, while the Hoan-ho of China has been computed at two thousand, and the Kian-ku at two thousand two hundred. The source of the Ganges remains a curious object of investigation; nor can much reliance be placed on its delineation in the map of Tibet by the Chinese lamas, published by Du Halde, and followed by all succeeding geographers. Tieffenthaler has laid down the latitude of the noted Gangoutra, or Cow's mouth, in lat. 33°, being a celebrated cataract where the Ganges is said to pass through a vast cavern in a mountain, falling into a large basin which it has worn in the rock. At Hurdwar, about two hundred and eighty miles to the south of the Cow's mouth, (if this last be not a dream of the fabling Hindoos,) the Ganges enters the wide plains of Hindostan; and pursues a south-east direction by the ancient city of Canoge, once the capital of a kingdom, by Allahabad, Benares, Patna, &c. till dividing into many grand and capacious mouths, it forms an extensive delta at its egress into the gulph of Bengal. The extreme mouths of the Ganges are intersected with isles, called the Sunderbunds, overgrown with tall bamboos and other luxuriant vegetation, the impenetrable haunts of the royal tiger and other beasts of prey. On the westernmost outlet of the Ganges, called the Hoogley, or Ugli, stands Calcutta, the capital of British Hindostan. This, and the most eastern which receives the Burrampooter, are the widest and most important branches.

The noblest tributary stream of the Ganges is the Burrampooter, or, as styled by the people of Asam, the Burrampoot, being the Sampoo of the Tibetans. The course of the river, and its junction with the Ganges, were first ascertained by Major Rennell. This noble river runs for four hundred miles through the British territory; and for the last 60 miles before its junction with the Ganges is from four to five miles wide. On their union below Luckipour, they form a body of running fresh water, resembling a gulph of the sea, interspersed with islands, some of which rival in size and fertility our Isle of Wight. In the mouths of the Ganges, and the Megra, or Burrampoot, the bore or sudden influx of the tide will rise instantaneously to the height of from five to twelve feet\*. Between Bengal and Tibet the Burrampoot passes through the country of Asam, a region hitherto little known, and which may be here briefly described. It is divided into two parts by the river; the northern being called Uttercul, and the southern Dachiucul. The mountains of Duleh and Landa divide Asam from Tibet†. Asam is intersected by several streams which run into the Burrampoot; among which is the Donec in the south, the environs of which present fields, groves and gardens. Among the products are many kinds of valuable

\* Rennell, 356.

† At. Ref. ii. 171.

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fruits, with pepper equal that of China province, Utter gold and silver furnish employment known by the general dialect somewhat at Ghargon, the great river: of stone and earth resemble those of and repeatedly for

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The Jumna rises parallel course to the east; but its miles when it flows numerous and extends greatly to the Chumbul, which tary streams.

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The Indus, and celebrated river is the original Sanscrit Ser. The source, like that of Ilfenieff, 1777, source to the Amu of Little Bucharia, from the eastern side comparative course a delta in the province Indian sea.

The tributary river its course, where the west run into the the Comul; from the sinas; the Rauvee tributary stream on the east of the Si known to the modern

fruits, with pepper, cocoa nuts, sugar, and ginger. The silk is said to equal that of China; nor are the musk deer unknown. The northern province, Uttercal, surpasses the southern in tillage and population: gold and silver are said to be found in the sand of the rivers, and to furnish employment to many of the natives. The Hindoo tenets are not known by the generality, though there be some Bramins, and the vulgar dialect somewhat resembles that of Bengal. The raja, or king, resides at Ghargon, the capital, which by this account stands on the south of the great river: it is fenced with bamboos, and has four gates constructed of stone and earth. The palace, public saloon, &c. seem rudely to resemble those of the Birmans. The natives are a stout and brave race; and repeatedly foiled the invasions of the Moguls.

The course of the Burrampoot is supposed to be nearly equal in length to that of the Ganges. The sources of these great rivers are stated to be very near, yet they separate to the distance of more than a thousand miles, and afterwards join in their termination.

The most important tributary streams which swell the Ganges are the Gagra, also called Sarjoo, (a great part of whose course, like those of the Coia and Teesta, belong to Tibet); the Jumna or Yumena, which receives many considerable rivers from the south, particularly the Chumbul and the Betwa; and lastly the Soan.

The Gagra, after pursuing a long course from the mountains of Tibet, pervades the province of Oude.

The Jumna rises from the mountains of Sirinagur, pursuing nearly a parallel course to the Ganges on the west, as the Gagra does on the east; but its comparative course has not exceeded five hundred miles when it flows into the Ganges at Allahabad. By receiving numerous and extensive streams from the south, the Jumna contributes greatly to increase the breadth of Gangetic Hindostan; and the Chumbul, which joins the Jumna, is itself swelled with many tributary streams.

The Soan is said to spring from the same lake with the Nerbuda (which flows in an opposite direction to the gulph of Cambay), and joins the Ganges not far below its union with the Gagra. Several streams of smaller account fall into the Hoogley, or western branch of the Ganges.

The Indus, and its confluent streams, form the next object. This celebrated river is by the natives called Sendé, or Sindeh, and in the original Sanscrit Seendho. It is also called Nilab, or the Blue River. The source, like that of the Ganges, remains unknown. From the map of Illeniéff, 1777, it appears that the chain of mountains which gives source to the Amu or Gihon on one side, and on the other to the rivers of Little Bucharia, is that of the Belur Tag or Cloudy mountains; from the eastern side of which chain the Indus seems to arise. Its comparative course may be about a thousand British miles, when it forms a delta in the province of Sindé, entering by many mouths into the Indian sea.

The tributary rivers of the Sindé chiefly join it in the northern half of its course, where they form the Panjab, or country of five rivers. From the west run into the Indus the Kameh, with its tributary streams, and the Comul; from the east the Behut or Hydaspes; the Chunar or Acesinas; the Rauvee or Hydraestes: and the Setlege or Hefudrus, with a tributary stream on the west, the Hyphasis: the Panjab country being on the east of the Sindé. The whole of this part of Hindostan is little known to the moderns; and it is uncertain whether the Caggar, a considerable

derable and distant river to the east, join the Sindé, or fall into the gulph of Cutch\*.

Having thus briefly described the most important rivers in the two first grand divisions of Hindostan, those of the central part must next be considered, being chiefly the Pudda, Nerbudda, and Taptee, on the west; and on the east the Subanreeka, or Subunreka, which joins the sea about thirty miles to the west of that mouth of the Ganges called the Hoogley, or, more properly, from a city on its shore, the Ugli. The Subunreka being here considered as the N.E. boundary of Central Hindostan, is followed by the Bramnee, the Mahanada; and after passing the little streams of the Sircars by the Godaveri, the last and most important stream of central Hindostan.

The Godaveri rises at Trimbuck Nassor, in the western Gaults, more properly called the Suckhien mountains, from several sources, about seventy miles to the N.E. of Bombay†. This great river was little known in Europe till recent times; and is also called the Ganga, a Hindoo term for a river in general, though applied by pre-eminence to the Ganges‡. About ninety miles from its egress into the sea, the Godaveri receives a large river, the Bain Gonga, which pervades immense teak forests, in a singular wild country inhabited by savages in the centre of Hindostan, and as yet little known or explored. The Bain Gonga was first discovered to Europeans by the late Colonel Camac, its course being about four hundred miles, while that of the Godaveri may be seven hundred. This last great river, like another Nile or Ganges, fertilizes the country; and from the benefits which it confers, is esteemed sacred. Besides the Bain, or Baun Gonga, it receives many tributary streams, as the Burda, and others from the north; and from the south a circuitous large river, the Munzora, which passes by Beder.

The next in consequence, in the central division of Hindostan, is the Nerbudda, which may be called a solitary stream, as it receives so few contributions. Its course is almost due west, and about equal to that of the Godaveri. The Taptee, which passes by Surat, is also a considerable river, about four hundred miles in length. To the south of this river the superior elevation of the Suckhien mountains, or western Gaults, diffuses all the rivers towards the east.

In the arrangement here followed, the Deccan, or most southern part of Hindostan, is considered as bounded and enriched by the Kistna, and its tributary streams. The Kistna, a sacred river, rises at Balisur, in the chain of Suckhien, not far to the south of Prona, and forms a delta near Masulipatam, after a comparative course of about five hundred British miles. This river rivals any Indian stream, in the fertility diffused by its inundations; and the richest diamond mines in the world are in the neighbouring hills to the north. The chief tributary streams in that quarter are the Beema; passing near the diamond mines of Villapour, and the Muzi, or Mouffi, by those of Golconda. But the most considerable river joins the Kistna from the south, being the Toombudra of Rennell's last map, the Tunge-badra of D'Anville; on the banks of which have been recently disclosed many populous provinces and flourishing towns.

To the south of the Kistna appear the Pennar, the Paliar, and above

\* Major Rennell's excellent map may here be compared with that of De la Roche, published by Faden 1788, which is well executed, and compiled with great care.

† *As. Res.* v. 2. 5.

‡ Rennell, 344.

all the Caveri, and gapatam, the capital of the southern river, which is about a hundred miles. The public monuments are more common in the course of the Caveri than in the course of the Caveri.

LAKES.] Such as the lake of Asia. The lakes of Asia are during the inundation of the Ganges a considerable piece of water, and the Godaveri and Kistna, these rivers, about that of Chilka about a salt creek commencing a similar kind. One of the Ganges and the Indus have been originally a large considerable expanse of a delightful country, and three British miles in.

#### MOUNTAINS.]

may be said to be a chain of the Tibetan mountains, they are called Himalayas, they may perhaps be the first only describes an Immaus of the Russians and Argun, Ak Tau, &c. of Hindostan.

As the northern Immaus may be the southern Immaus may be the southern Immaus which may be admitted to the rich country of the Immaus.

It must be observed in the most recent discovery of the Immaus or rather hills, and the Immaus of Nipal and Bootan, a snowy ridge; nor can Du Halde. An equatorial ridge in Cashmir. The ridge of the Immaus, running east and west, is the Immaus, as the oriental geographers.

The mountains to the south of the Immaus seem to be the Becius are little known.

In Major Rennell's map, the Immaus is inserted in the minute of the Immaus with a bold and scientific name, the most of the names of the Immaus. The Chaliscuteli hill, The Alideck mountain.



all the Caveri, another large and sacred stream, which passes by Seringapatam, the capital of Mysore, and forms a wider delta than any other southern river, when it enters the sea, after a course of about three hundred miles. The Caveri in general pervades a country in which public monuments, unequivocal marks of civilization and opulence, are more common than in the northern parts of Hindostan\*. As the course of the Caveri is comparatively short, its tributary streams are unimportant.

**LAKES.]** Such are the principal rivers in this extensive portion of Asia. The lakes seem to be few. Rennell mentions that of Colair, during the inundations about forty or fifty miles in extent, and a considerable piece of water in all seasons, lying about midway between the Godavery and Kistna, in the new soil gradually formed by the inundations of these rivers, about twelve British miles to the north of Masulipatam. That of Chilka bounds the British Sircars on the north, being a kind of a salt creek communicating with the sea. The lake of Pulicat is of a similar kind. One or two lakes may also be traced in the vicinity of the Ganges and the Indus. The country of Cashmir is supposed to have been originally a large lake, as reported in the native traditions; and a considerable expanse of water still remains in the northern part of this delightful country, called the lake of Ouller or Tal, being about fifty-three British miles in circuit.

**MOUNTAINS.]** The mountains chiefly celebrated by the Hindoos may be said to be only visible from their country, being the southern chain of the Tibetan Alps, covered with perpetual snow. Hence they are called Himmala, from a word denoting Snow. This name may perhaps be the source of the Imaus of the ancients. Ptolemy not only describes an Imaus as running north and south, or the Belur Tag of the Russians and Tatars, with its ridges to the west, now called Argun, Ak Tau, &c. but another Imaus passing E. and W., to the N. of Hindostan.

As the northern Imaus of Ptolemy is clearly the Belur Tag, so his southern Imaus may be safely regarded as the Himmala of the Hindoos, which may be admitted to have been known to the ancients, who were no strangers to the rich Gangetic regions of Hindostan.

It must be observed, however, that there is no small confusion, even in the most recent delineations, of the Indian ranges of mountains, or rather hills, and their exact denominations. The ridges to the south of Nipal and Bootan are far inferior in height to the Himmala, or snowy ridge; nor can we much depend on the Tibetan names given by Du Halde. An equal defect attends the mountains from Sirinagur to Cashmir. The ridge of Kuttore is properly on the north of that province, running east and west; and is followed by the Hindoo Koh of oriental geographers.

The mountains to the west of the Indus, or on the Persian frontier, seem to be the Becius and Parvetius of Ptolemy; but the modern names are little known.

In Major Rennell's excellent map of Hindostan the ridges are rather inserted in the minute and antiquated manner of D'Anville, than treated with a bold and scientific discrimination. The following list contains most of the names there to be found.

The Chaliscuteli hills, between the western desert and the Setlege.

The Alideck mountains, above Gujurat.



The mountains of Gomaun, or Kemaon, called also those of Sewalic. This extensive ridge seems to form the exterior barrier of the Tibetan Alps in Sirinagur, &c.

The mountains of Himmaleh, N. of Tassifudon. The other Tibetan mountains seem to be from Du Halde.

In Bengal are several ridges of hills without names, which is the case even with the chain on the N. W. of the Sircars.

The Lucknow hills, at the source of the Mahanada.

Those of Gondwanah, running parallel with the Nerbudda for a space, and then turning south to Narnalla.

The ridges near the Chumbul are also without name.

The Grenier mountains in Guzarat.

The Shatpoorta hills, between the Nerbudda and the Taptee.

On the other side of the Nerbudda there are also remarkable parallel ridges, giving source to many rivers, but nameless.

Even the Gauts are laid down with little care; and the important diamond mountains of Golconda and Visiapour are not mentioned.

A ridge called the Bundelh mountains runs parallel to the Godavery on the south, but at a considerable distance from that river.

Hence it will be perceived that the Hindoo orology is singularly imperfect: but what is to be expected from a people who confound terms so far as to call a mountain a Gaut or a Pass? The Gauts, peculiarly so called, are ranges which run along the western and eastern coasts of the Deccan. The former is by the natives called the mountains of Suckhien\*.

These chains rise abruptly on each side, but particularly the west, forming as it were enormous walls, supporting a high terrace or table land in the middle. This elevated tract passing through a great part of the Maratta territories to the north of Mysore, is termed in general the Balla Gaut, through its whole extent, while low passes are called Payen-Gaut†. Opposite to Paniany, on the western coast, there is a break or interruption of the mountains, about sixteen miles in breadth, chiefly occupied by a forest; exclusive of this gap the mountains of Suckhien extend from Cape Comorin to Surat, at the distance of from forty to seventy miles from the shore‡. Their effect on the seasons has been already mentioned; and it ceases at Surat, where the S. W. wind carries uninterrupted moisture over Hindostan. The high terrace in the middle of the Deccan receives little rain; and the coast of Coromandel, which receives its rain from the N. E. monsoon, is also of a dry soil, as already described.

The sandy desert on the east of the Indus must not be omitted, extending in length between four and five hundred British miles, and in breadth from sixty to one hundred and fifty. Of this great desert the accounts are imperfect; but it is styled that of Agimere, and seems to have been known to Herodotus. Such wide expanses of barren sand form features peculiar to Asia and Africa.

FORESTS.] Of this extensive portion of Asia a great part remaining in primitive wildness, there are large forests in various quarters, particularly near the mouth of the Ganges, and in the wide unexplored regions on the west of the Sircars. These forests surpass in exuberance of vegetation any idea which Europeans can imagine; creeping plants of

\* At. Ref. v. 1. 5.

† Rennell, cxvii.

‡ Rennell, 276, and his map of the Deccan 1800, in which the southern mountains are well expressed.

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prodigious size and length, extended from tree to tree, forming an impenetrable gloom, and a barrier, as it were sacred to the first mysteries of nature.

**BOTANY.]** The general observations which were made on India beyond the Ganges, apply with still greater propriety to the botany of Hindostan. A more fertile soil, and a climate better adapted to the most profuse luxuriance of vegetation than the well-watered tracts in this vast peninsula, cannot possibly be found in any part of the known world. The liberality with which nature has scattered over this favoured country the choicest of those plants that contribute to the sustenance, the convenience, and elegance of human life, is boundless and almost without competition: double harvests, two crops of fruit from many of the trees, and from most of the rest a copious and regular supply during the greater part of the year, are the bases that support its swarming population, while its timber of every quality, its plants of medicinal virtue, its numerous and exquisite dyeing drugs, and its cottons and other vegetable articles of cloathing, offer to its inhabitants the materials of enjoyment and civilization.

The most distinguishing feature in tropical landscapes is the multitude of lofty trees of the palm kind; all these rise with a simple trunk to a considerable height, terminated by a tuft of large leaves, and wholly destitute of branches except while they are in fruit: of these many species are natives of India. The cocoa nut-tree, perhaps the most widely diffused of any, is found in abundance on the coasts of Malabar and Coromandel; its fruit supplies an agreeable nutriment, and the fibrous covering of the nut is manufactured into the most elastic cables that are known. The areca palm is another of this family, of rare occurrence in a truly wild state, but cultivated over all India for its nuts, which, mixed with the leaves of the betel pepper and a little quick-lime, are in general request for chewing as tobacco is used in Europe. The smaller fan-palm (*borassus flabelliformis*) is distinguished for its broad fan-shaped leaves, which are used for writing on and for thatching; its wood is in high esteem for rafters; and of its juice the best palm toddy, the common distilled spirit of the country, is made. This, although a large tree, is far inferior to the greater fan palm (*corypha umbraculifera*) which abounds on the lower mountains of the Carnatic; each leaf of this vast tree is capable of covering ten or a dozen men, and two or three of them are sufficient to roof a cottage. The most beautiful of all, the sago palm, is also found here, though not so plentifully as in some of the Indian islands. Besides these may be mentioned the elate sylvestris, whose sweet mealy fruit is the favourite repast of the elephant; and the plantain, distinguished by its tuft, of broad simple light green leaves, and its wholesome farinaceous fruit.

Of the other fruit-bearing trees the number is so great, and they are for the most part so little known, even by name, to Europeans, that only a few of the principal need be here mentioned: these are the papaw fig; two species of the genus known to botanists by the name of *eugenia*, and remarkable for the sweetness and rose flavour of their fruit; and the *spondius dulcis*, whose sweetness pleasantly tempered with acid, renders it peculiarly agreeable in this hot climate. The pillaw is a tree of equal singularity and use: from its trunk and larger branches are produced fibrous bags, sometimes of the weight of twenty-five pounds, which are filled with nuts like the chestnut, and resembling the almond in flavour. The *dillenia indica* is remarkable for its beauty, and valuable for its large pomaceous fruit of a pure acid, and equal to the white lily in fragrance.

The *averrhoa carambola* produces three crops of fruit in the year, and another of the same genus, the *a. bilimbi*, is in a manner covered with large juicy berries of the size of a hen's egg, and resembling the grape. The mango however is reckoned the most exquisite of the Indian fruits, and is found in considerable abundance, both wild and cultivated through the whole peninsula, nor ought the elephant apple, (*feronia elephantum*), to be omitted, almost equally a favourite with the animal whose name it bears, and with the native Hindoos.

Of the trees whose produce is used in medicine or the arts, the most worthy of notice are the *castia fistula*; the tamarind; the gambugia, from whose bark exudes the gum of the same name; the *laurus castia*, whose bark is a common substitute for cinnamon; *cassalaphina sappan*, a red wood used in dyeing; sandal wood; *strychnos potatorum*, the fruit of which, called the *clearing nut*, is in general use for clearing muddy water; and *semicarpus anacardium*, or marking nut used for giving a durable black stain to cotton. The chief timber trees are the teak, used especially for ship-building; a large tree called by botanists *gyrocarpus*, whose strong light wood is in great request for rafts, or catamarans; the ebony; the *ferreola*, the hardest of all the Indian woods; and the *dalbergia*, a dark grey wood with light coloured veins, very heavy, and capable of a most exquisite polish; it is much used for furniture.

A few other trees require notice from their size or beauty, such as the banyan tree and Indian fig; the *hibiscus ficulneus* is remarkable by its magnitude, and the profusion of its elegant blossoms, and is of peculiar value in a tropical climate, as hardly any insects are found under its shade. The cotton tree rises with a thorny trunk eighteen feet in circumference to the height of fifty feet without a branch, it then throws out numerous boughs, which are adorned in the rainy season with purple blossoms as large as the open hand, and these are succeeded by capsules filled with a fine kind of cotton. The shrubs and herbaceous plants are innumerable, and multitudes would be well worth recording for their beauty or use, if the nature of this work allowed an opportunity; we cannot however omit the indigo and the India madder, whence the beautiful colours of the Indian chintzes are procured. The *nyctanthes hirsuta*, and the *jasminum grandiflorum*, boast the most fragrant blossoms of the whole east, the former perfuming the night, and the latter scenting the day. The *gloriosa superba*, *cecropegia candelabrum*, and Indian vine, form by their union bowers worthy of Paradise; and the *butea superba*, a small tree, by the striking contrast of its green leaves, its black flowerstalks, and its large scarlet papilionaceous blossoms, attracts with its ostentatious charms the notice and admiration of the most incurious.

ZOOLOGY.] For an ample account of the zoology of Hindostan the curious reader may consult Mr. Penant's view of this country, this being the peculiar province of that great naturalist. The numerous cavalry which form the armies of the Hindou princes imply great numbers of horses; and the breeds most celebrated are those of Lahore and Turkistan, but the grandees are supplied from Persia and Arabia. The inferior breeds, though ugly, are active, and in some regions there are ponies not exceeding thirty inches in height\*. The horses of Tibet, generally pyed, are often used in Gangetic Hindostan. The animal called the wild mule, and the wild ass, sometimes pass in herds to the northern mountains, from the centre of Asia and the desert of Cobi.

The cattle of Hindostan are numerous, and often of a large size, with

\* Penant, vol. ii. 339.

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a hunch on the shoulders. The sheep are covered with hair instead of wool, except in the most northern parts.

Antelopes abound, of various beautiful kinds, particularly that called the Nilgau, which is of a considerable size. Bernier, the most intelligent of travellers in India, gives an account of the chase of the antelopes by means of the hunting leopard, trained as in Persia to this sport\*.

The Arabian camel, or that with a single hunch, is not unfrequent about Patna. The elephant has been frequently described; the usual height of this intelligent animal is about ten feet. Apes and monkeys abound in various regions of Hindostan; and the orang outang is said to be found in the vast forests on the W. of the Sircars. The dogs are generally of the cur kind, with sharp, erect ears, and pointed noses; the smallest size is that kept by the Pariars, or degraded poor, rendered doubly miserable by the fanatic prejudices of the abominable system of the Bramins. The other animals are wild boars, bears, wolves, foxes, jackalls, hyenas, leopards, panthers, lynxes: in the north, mules, weasels, and many other quadrupeds of inferior size.

The lion seems to have been always unknown in Hindostan, where the ancient sculptors have attempted in vain to represent an animal which they never saw; but Mr. Pennant assures us that they are found near the celebrated fort of Gwalior, about Marwah, and near Cashmir. The royal tiger of Bengal is however a far more terrible animal than the stoutest lion, and was known in classical times, as Seneca the poet calls it *Gangetica tigris*, or the Gangetic tiger. Such is their size and strength that they are said to carry off bullocks, the height of some being said to be five feet, and the length in proportion. Parties of pleasure on the banks at the mouth of the Ganges have often been shockingly interrupted by the sudden appearance of the tiger, prepared for his fatal spring, which is said to extend a hundred feet, not improbable when compared with that of the cat. Such is the nature of the animal, that if disappointed in this first leap, he couches his tail and retreats. The rhinoceros with one horn, an animal of the swamps, also abounds in the Gangetic isles. Wild peacocks abound in Tibet and Ceylon; our common fowl are also found wild in the jungles, whence they are called jungle fowl. Hence it seems reasonable to conclude that as these animals have been diffused over the civilized world from time immemorial, they must have passed from Hindostan to Persia, whence they were distributed to the western countries.

MINERALOGY.] The mineralogy of Hindostan may be opened by its most distinguished and peculiar product, celebrated in all ages of the world, that of diamonds, which are indeed also found in Brazil, but of far inferior quality. This substance is the most hard, transparent, and brilliant of all minerals; and is commonly colourless, but is found occasionally of a citron yellow, grey, brown, or black. It is found in beds of torrents or in yellow ferruginous earth, under rocks of quartz or sand stone.

The chief and most celebrated diamond mines are those near Visiapour and Golconda, both near streams that flow into the Kistna in the southern division of Hindostan, Golconda being in the territory of the Nizam, while Visiapour belongs to the Marattas†.

\* Those of Tippoo are in the Tower of London; their legs are much higher in proportion than those of any other feline animal.

† Colore, another diamond mine, is on the southern bank of the Kistna, not far from Condavir. Rennell, 290.

Raoelconda, a famous diamond mine in the territory of Viliapour, about forty British miles N.W. from the junction of the Beema and Kistna, seems to be the most noted of those in that quarter\*. A district on the river Mahanada, to the S. of Sumboulpour, is also celebrated for this rich product; as is Gandicotta, on the southern bank of the river Pennar†.

The mine near the Mahanada is not the sole example of the diamond being found to the north of the Deccan, for this mineral unexpectedly occurs, so far north as Penna, in the territory of Bundelcund, about sixty B. miles to the south of the river Jumnah, which flows into the Ganges‡.

Next in value to the diamond are the sapphire and the ruby, which are chiefly found in the Birman territories; but the ruby also occurs in Ceylon, which likewise produces an inferior kind of sapphire, the topaz, and other precious stones.

Among the metals gold is found in the rivers which flow from Tibet into the Ganges and Indus; but no gold mines seem ever to have been known in Hindostan, which has rather been celebrated for attracting this metal in commerce from other countries. On the other hand Tibet, a mountainous country, abounds in this precious metal. Silver seems rare in general throughout the oriental regions, and there is no indication of this mineral through all India. Thunberg mentions iron ore, and plumbago among the minerals of Ceylon; but says nothing of copper which seems also little known in Hindostan.

**MEDICAL WATERS.]** The natives sometimes seek for the cure of diseases by bathing in the sacred streams; and their devotion to water in general seems to prevent their exploring any medicinal sources. Yet there are a few exceptions, and several warm springs are reputed sacred.

**NATURAL CURIOSITIES.]** Among the singular features of nature may be mentioned the appearance of the provinces on the rivers, during the season of inundation, when an access is opened by numerous channels to places before inland. The grand aspect of the northern mountains covered with snow, and the wide desert on the east of the Indus, are also grand features; as is the high table land of Mysore, supported by natural buttresses of mountains. The Sunderbunds, and prodigious forests, have been already mentioned. The detached ridges of rock, sometimes crowned with strong fortresses, may also be named among the natural curiosities. But one of the most noted in the Hindoo tradition is the Gangoutra, or fall of the Ganges, sometimes called the Cow's Mouth. According to the report of a Bramin who pretended to have visited the spot, the Ganges springs from the peak of Cailasa, seven days journey to the south of Ladac, or Latac, the capital of a small Tibetan principality §. This peak is about two miles to the south of Mansaror; and the river thence flows, for about seven or eight miles, when it finds a subterranean passage, until it again emerges in the country of Kedar Nauch, at the place called Gungowtry.

Adam's bridge is also a noted fable of the Bramins, for in their strong imaginations and weak judgments every thing assumes a fabulous tinge. It is a kind of sand bank, with some isles stretching from a promontory to the opposite isle of Ceylon: but the name of Rama has been exchanged by the Mahometans for that of Adam.

\* Rennell, 233.

† Ib. 233.

‡ Ib. 240.

§ Af. Ref. v. 45. vi. 103.

*Extent and Division of the British Army. — Navy. — Pal, Sirinagur.*

## EXTENT AND DIVISION

Bengal to the country. The greatest breadth, of Sewalik, may be about the west of the province. It comprises the province with part of Delhi and them equal in celebrity power of the Mongul times.

**BRITISH POSSESSIONS.]** The districts to the west, in this country, it is probable to some account of the extent about 550 miles powerful kingdom. The millions of black subjects not authenticated.

**REVENUE.]** The revenue 4,210,000l. sterling; the &c., 2,540,000l.; so that well situated in respect were in our possession Hindostan has known since.

**GOVERNMENT.]** The was first vested in a governor of a president and eleven four, with Warren Hastings all affairs, civil and military Orissa; and to controul and Bombay on the Western. The court of judicature with civil, criminal, naval are governed by their own the other British possessions were extinguished, and the obstacle to all the best service was imposed by crafty favourites. **ARMY.]** The military but varies according to the supported by the Sepoys numerous idle followers, than a quartes of the nominal



## CHAPTER II.

## GANGETIC HINDOSTAN, OR THE COUNTRIES ON THE GANGES.

*Extent and Divisions. — British Possessions. — Revenue. — Government — Army. — Navy. — Cities and Towns. — Surrounding States; Bootan, Nepal, Sirinagur.*

EXTENT AND DIVISIONS.] **T**HIS grand division of Hindostan extends from the eastern boundaries of Bengal to the country of Sirhind, a length of about a thousand B. miles. The greatest breadth, from the sources of the Chumbul to the mountains of Sewalik, may be about four hundred and fifty B. miles; and the least, on the west of the province of Bengal, about two hundred and thirty. It comprises the provinces of Bengal, Bahar, Allahabad, Oude, Agra, with part of Delhi and Agimere, and of Malwa in the south; most of them equal in celebrity to any in Hindostan, and the chosen seats of the power of the Monguls, as well as of mighty kingdoms even in classical times.

BRITISH POSSESSIONS.] Bengal, Bahar, with Benares, and some other districts to the west, forming the chief basis and centre of English power in this country, it is proper first to consider them apart, and then proceed to some account of the other provinces. The British settlements here extend about 550 miles length by 300 in breadth, in themselves a powerful kingdom. The native population is computed at ten or eleven millions of black subjects, exclusive of the English, whose number seems not authenticated.

REVENUE.] The revenue of these British provinces is computed at 4,210,000l. sterling; the expence of collection, military and civil charges, &c., 2,540,000l.; so that the clear revenue is 1,670,000l. \*. They are well situated in respect to security from foreign invasion; and since they were in our possession have enjoyed more tranquillity than any part of Hindostan has known since the reign of Aurungzeb.

GOVERNMENT.] The government of Bengal and its wide dependencies was first vested in a governor general and a supreme council, consisting of a president and eleven counsellors; but in 1773 these were restricted to four, with Warren Hastings the governor general, who were to direct all affairs, civil and military, in the kingdoms of Bengal, Bahar, and Orissa; and to controul the inferior governments of Madras on the E. and Bombay on the W., with Bencoolen in the island of Sumatra †. The court of judicature consists of a chief justice and three other judges, with civil, criminal, naval, and ecclesiastical jurisdiction. The Hindoos are governed by their own laws; but it is to be wished that in these and the other British possessions the abominable influence of the Bramins were extinguished, and the casts totally abolished, as the most shocking obstacle to all the best feelings and exertions of human nature that ever was imposed by crazy superstition upon consummate ignorance.

ARMY.] The military establishment in Bengal is always respectable, but varies according to the situation of affairs. The British troops are supported by the Sepoys, a native militia, who are accustomed to have numerous idle followers, so that the effective men seldom constitute more than a quarter of the nominal army. A force of twenty thousand British

\* Russell, calc.

† Pennant, ii. 327.



foldiers might probably encounter and vanquish two hundred thousand blacks or Hindoos. The decisive battle of Plassey, which secured to us, the possession of these opulent provinces, was gained by the formidable array of nine hundred Europeans\*.

**CITIES AND TOWNS.]** The chief city of Bengal, and of all the British possessions in Hindostan, is Calcutta. The latitude is  $22^{\circ} 33'$  north, and the longitude  $88^{\circ} 28'$  east from Greenwich.

"Generally speaking the description of one Indian city is a description of all; they being all built on one plan, with exceedingly narrow, confined, and crooked streets; with an incredible number of reservoirs and ponds, and a great many gardens interspersed. A few of the streets are paved with brick. The houses are variously built, some of brick, others with mud, and a still greater proportion with bamboos and mats: and these different kinds of fabrics, standing intermixed with each other, form a motley appearance: those of the latter kind are invariably of one story, and covered with thatch. Those of brick seldom exceed two floors, and have flat, terraced roofs. The two former classes far outnumber the last, which are often so thinly scattered, that fires, which often happen, do not sometimes meet with the obstruction of a brick house through a whole street.

"Calcutta is, in part, an exception to this rule of building; for there the quarter inhabited by the English is composed entirely of brick buildings, many of which have more the appearance of palaces than of private houses, but the remainder of the city, and by much the greatest part, is built as above described. Calcutta is the emporium of Bengal, and the seat of the governor general of India. It is a very extensive and populous city, being supposed at present to contain at least 500,000 inhabitants. Calcutta is situated on the western arm of the Ganges, at about one hundred miles from the sea; and the river is navigable up to the town for the largest ships that visit India. It is a modern city, having risen on the site of the village of Govindpour, about ninety years ago. The citadel is superior in every point, as to strength and correctness of design, to any fortress in India; but on too extensive a scale to answer the useful purpose intended, that of holding a post in case of extremity†."

In this grand capital of British Asia the mixture of people and manners presents a picturesque and interesting scene. The black Hindoo, the olive-coloured Moor, or Mahometan, contrasted with the fair and florid countenances of the English; and the charms of the European damsel receive a foil from the dark Hindoo beauties. To the luxuries of the Asiatic are added the elegance and science of the English life. Even the newspapers are drawn up with care and printed with elegance; and the Asiatic society, instituted by the late admirable sir William Jones, forms a noble monument of science in a distant country.

The commerce of Calcutta is very great in salt, sugar, opium, silks, and muslins, &c. The poppy which yields the opium is particularly cultivated in the province of Bahar. On the Ganges are transported to Asam cargoes of salt, in exchange for gold, silver, ivory, mulk, and a particular kind of silky cotton. The cowry shells, used as a small coin, are imported from the Maldives in exchange for rice. The fine muslins are chiefly fabricated in the rainy season from May to September, and, with calicoes, form a great part of the exports to Europe.

In the eastern part of the British possessions the most considerable town is Dacca, beyond the principal stream of the Ganges, but defended on

the east by the manufactures of the pean market, and It was once the dabad, a modern about 26 miles a Ganges, which the

Patna is the capital N.W. from Calcutta able trade; most of made in the province

Benares approaches the district having 1755. It is a rich of the Ganges, about called Kati, was the north.

On leaving the B first occurs Allahabad Jumna and the Ganges Oude, but of little are the diamond mines Bundelcund.

Lucknow is the principal city on the Gogra, have given name to the N.W. is Borilli, a fine

The great and good the Mogul empire about but it soon became and declined.

To the N.W. of Agra the celebrated city of of considerable antiquity veller, Bernier, computed exclusive of the fortifications This metropolis may be noble and splendid with grand mosque is a met with high minarets, and the city has been very Nadir Shah, in which perished.

The city of Agimere the greater part of that be considered as the fact view. Oujein is about wall, with round towers with lime, tarafs, or tiles with stone: there are several new palace built by Sind here suddenly turns north

\* Rennell, xcv.

† Rennell, 38, 39.

the east by the Megna or Burrampoot. Dacca is celebrated for manufactures of the most delicate muslins, so much in request in the European market, and which are made from the cotton of the district. It was once the capital of Bengal, and was succeeded by Moorshehabad, a modern city. Hoogley, or Ugli, is a small but ancient city, about 26 miles above Calcutta, on the grand western branch of the Ganges, which thence receives its name.

Patna is the capital of the province of Bahar, situated about 400 miles N.W. from Calcutta, being tolerably fortified, and a place of considerable trade; most of the saltpetre in particular, exported to England, is made in the province of Bahar.

Benares approaches to the western frontier of the British possessions, the district having been ceded to the East India Company in the year 1755. It is a rich, populous, and compact city, on the northern bank of the Ganges, about 460 miles from Calcutta. Benares, anciently called Kali, was the most early seat of Braminical knowledge in the north.

On leaving the British possessions, and proceeding towards the west, first occurs Allahabad, in the province so called, at the confluence of the Jumna and the Ganges, a city belonging to the the nabab or nabob of Oude, but of little consequence. Not far to the S.W. of Allahabad are the diamond mines of Penna, in the small detached province of Bundelcund.

Lucknow is the present capital of Oude, having superseded Fyzabad, a city on the Gogra, near the ancient city of Aiudh, which seems to have given name to the province. At a considerable distance to the N.W. is Borilli, a small but noted town near the northern frontier.

The great and good emperor Achar constituted Agra the capital of the Mogul empire about A.D. 1566. It was then a small fortified town, but it soon became an extensive and magnificent city, and has as rapidly declined.

To the N.W. of Agra, near the confines of Sindetic Hindostan, stands the celebrated city of Delhi, the Mahometan capital of India, said to be of considerable antiquity by the name of Indarput. That intelligent traveller, Bernier, computes the extent of Delhi, in 1663, at three leagues, exclusive of the fortifications; and he represents Agra as of wider circuit. This metropolis may be said to be now in ruins; but there are many noble and splendid remains of palaces with baths of marble\*. The grand mosque is a magnificent edifice of marble and red freestone, with high minarets, and domes richly gilt. One of the quarters of the city has been very thinly inhabited since the dreadful massacre by Nadir Shah, in which one hundred thousand people are said to have perished.

The city of Ajimere, or Ajimer may be more properly allotted, with the greater part of that province, to Sindetic Hindostan: but Oujein may be considered as the farthest city in the south of that portion now under view. Oujein is about six miles in circumference, surrounded by a strong wall, with round towers. The houses partly brick, partly wood, covered with lime, tarafs, or tiles: the bazar, or market, is spacious, and paved with stone: there are four mosques, and several Hindoo temples, with a new palace built by Sindia. On the south runs the river Sippara, which here suddenly turns north, pursuing its course into the Chumbul, the last

\* Asi. Res. iv. 417.

a large river, not less than three quarters of a mile in breadth, at some distance from its egress into the Jumna \*.

Turning to the east, the river Nerbudda may for a part be considered as the most southern limit of Gangetic Hindostan; yet concerning Gurrah, a city or town of some note, there are no details; and the other names are too unimportant for general geography. But the noted fort of Gwalior must not be omitted, being a striking object in Hindoo topography. The insulated rock on which it stands is about four miles in length, but narrow: the sides are almost perpendicular, from two to three hundred feet above the surrounding plain †. On the top there is a town with wells and reservoirs, and some cultivated land. This celebrated fortress, which is about 80 miles to the south of Agra, was taken by surprise by a few English under Major Popham in 1779. Such isolated forts on rocks were not uncommon in ancient India; and that of Aornos is distinguished in the history of Alexander.

**SURROUNDING STATES.]** Before closing this brief delineation of Gangetic Hindostan, the most large, celebrated, and best known quarter of that extensive region, it may be proper to offer some remarks on the surrounding states on the E. and N. The Roshawn of Rennell is the same with Aracan, being merely a Hindoo term for that country. His Cossay is only another name for Meckley, or the country of the Muggaloos, a people between Afam on the north and Aracan on the south, whose chief town is Munnipura ‡. These eastern tribes of rude mountaineers are little known, but approach to the savage state. Afam has been already briefly described in the account of the river of Burrampoot; but to the west open the wide and obscure regions of Tibet.

Of Sirinagur, laid down in the maps as the most northern frontier country, an interesting account has recently appeared §. To the north is seen the lofty chain of snowy mountains, passing in an extensive line from east to west, at the distance of about 80 miles to the N. of the town of Sirinagur.

One of the most conspicuous summits is that of Hem, rising in four or five conical peaks; and near its base is a place of Hindoo worship, called Buddrinaut. Several rivulets descend into the Aliknundra, here acknowledged by the Hindoos as the genuine and divine Ganges. The raja and natives are of the Hindoo faith; but the country, a mass of mountains, extremely poor. The channel of the river is here not less than 250 yards in breadth. The sands are washed for gold; and about forty miles to the north of the town are two copper mines, with one of lead about fifty miles to the east.

### CHAPTER III.

#### SINDETIC HINDOSTAN; OR THE COUNTRIES ON THE RIVER SINDEH OR INDUS.

*Extent.—Western Boundary of Hindostan.—Chief Cities and Towns.*

**EXTENT.]** THIS part extends from the northern mountains of Cashmir, and the Hindoo Koh, in the north of Cabul, to the mouth of the Indus, a length of about 900 B. miles, and about 350 in medial breadth. Besides part of the provinces of Delhi and Agimer, it

\* Af. Ref. vi. 40. † Hodges, 139. ‡ Af. Ref. v. 223. and 200. § Ib. vi. 309.

contains

contains the extent of the frontier region of the Indus. These powers, and the Hindostan by sea, the

The chief cities of Cashmir, Cabul, Sendean Delta, new religious sects as far as Cashmir is at Candahar, Persia, and to his

This brief account ends with the regarded as the most important for a strong

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contains the extensive province of Moultan, with Lahore, Cashmir, Cabul, the frontier region of Candahar, and that of Sindi at the mouth of the Indus. These provinces are the most remote from the seat of British power, and, the greater part of modern travellers having visited Hindostan by sea, they are less accurately known than any other quarter.

The chief cities which occur in this extensive region are Lahore, Cashmir, Cabul, Ghisni or Gafna, Candahar, Moultan, and Tatta, in the Sendean Delta. On the east of the Indus, or in Panjab, the Seiks, a new religious sect, form the leading power; while on the west, and even as far as Cashmir, the dominions of a Persian Shah, whose seat of empire is at Candahar, comprize all the provinces, with several in the east of Persia, and to him even Sindi is tributary.

This brief account of Sindetic Hindostan shall begin with the N.E., and end with the S.W., after mentioning that Agimer, which may be regarded as the most eastern city of this division, is little remarkable, except for a strong fortress on a hill.

CHIEF CITIES AND TOWNS.] The town of Sirhind is placed by modern maps on the river Caggar, which D'Anville bends west into the Indus, but Major Rennell supposes it to follow a detached course into the gulph of Cutch; perhaps it may be lost in the great sandy desert.

Lahore, now the capital of the Seiks, was the residence of the first Mahometan conquerors before they advanced to the more central parts; and, including the suburbs, was supposed to be three leagues in length. From Lahore to Agra, near 500 English miles, there was an avenue of shady trees\*. The river Rauvee passes by Lahore, being the Reva of the Hindoos, said by them to derive its source from the mountain Vindbia, as the Sarjou from the Himar or Himala†.

Almost due north from Lahore, at the supposed distance of about 200 B. miles, stands Cashmir, the capital of the delightful province so called. This city is said to be also called Sirinagur, having been confounded with the town of the same name, already mentioned in the account of Gangetic Hindostan. To avoid the confusion arising from identity of names, it is better to follow the authorities of Bernier and Forster, who denominate the capital of Cashmir by the same term as the country. "The city, which in the ancient annals of India was known by the name of Siringnaghur, but now by that of the province at large, extends about three miles on each side of the river Jalum, over which are four or five wooden bridges, and occupies in some part of its breadth, which is irregular, about two miles. The houses, many of them two and three stories high, are slightly built of brick and mortar, with a large intermixture of timber. On a standing roof of wood is laid a covering of fine earth, which shelters the building from the great quantity of snow that falls in the winter season. This fence communicates an equal warmth in winter as a refreshing coolness in the summer season, when the tops of the houses, which are planted with a variety of flowers, exhibit at a distance the spacious view of a beautifully chequered parterre. The streets are narrow, and choaked with the filth of the inhabitants, who are proverbially unclean. No buildings are seen in this city worthy of remark; though the Kashmirians boast much of a wooden mosque called the Jumah Mussid, erected by one of the emperors of Hindostan; but its claim to distinction is very moderate‡." The country of Cashmir is a delicious vale, extending in an oval form, about 90 miles from S.E. to N.W. It was subject to the Zagathai princes (a Tataric race, who speak the same language with

\* Rennell, 82; but others only extend it to Delhi. † Wessdin, 232. ‡ Forster, vol. ii.

the Turks), till A. D. 1586, when it became subject to the Monguls, and afterwards to the Afgans. Rice is the common product of the plains; while the surrounding hills yield wheat, barley, and other crops. The celebrated shawls are only manufactured here; the material being from Tibet, especially those districts which lie at a month's journey to the north-east. The price at the loom is from 26s. to 51s., and the revenue is transmitted to the Afgan capital in this fabric. The Cashmians are stout and well formed, but their features often coarse and broad, even those of the women, who in this northern part of India are of a deeper brown complexion than those of southern France or Spain. The dress is inelegant, but the people gay and lively, and fond of parties of pleasure on their delicious lake. The Afgan government has however somewhat crushed their spirit. The language is derived from the Sanscrit, but the Persian is chiefly used in elegant composition. During the summer heats the great Moguls used to retire to Cashmir, where they enjoy a cool and refreshing climate.

The wide space from Cashmir to Cabul is more remarkable for numerous streams and mountains than any other circumstance; and the conquerors of India preferred the south. Even in Cabul the mountains are said to be covered with perpetual snow; but the country is diversified with gentle hills, fertile vales, and stately forests. It is also intersected by many streams, and, besides delicate fruits and flowers, is abundant in other productions. Ghizni was the ancient capital of the country, of which Candahar was then reckoned a part\*. The city of Cabul is the capital of the dominions of the Persian Shah, usually styled king of Candahar, whose dominions extend westward beyond the sea of Durrah, including a great part of Corasan, with the large Persian province of Segistan, being about 800 B. miles in length, by about half that breadth. Cabul is esteemed a considerable city, in a romantic and healthy situation.

Ghizni or Gafna is remarkable as the seat of the first Mahometan conquerors of Hindostan, whose empire almost corresponds with the modern kingdom of Hindostan.

The city which gives name to the last is of small account, except as a noted pass from Persia into Hindostan.

Having thus reached the most western frontier, and nothing farther worthy of commemoration arising on that side of the Sindeh, it will be proper to pursue the course of that grand stream towards the south. The small city and fortress of Attock were only built by Acbar, 1581; but the vicinity was memorable in ancient times as the general passage from India to the west. The Indus, about twenty miles above Attock, is a rough, rapid stream, about a mile in breadth where not interrupted by isles. This size indicates a remote source, and many tributary streams.

Moulton, the capital of the province so called, is about 170 B. miles to the south of Attock, on the large river Chunab, not far from its junction with the Indus, along which there is an uninterrupted navigation for vessels of 200 tons, not only to this city, but as far as Lahore†. Moulton is a small city, and of little consequence, except for its antiquity and cotton manufacture.

The last remarkable city on the Indus is Tatta, the capital of the

\* Rennell, 152.

† Ib. 178; yet, page 93, he mentions the river of Moulton as being choked up about 1665.

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province of Sindi, and situated within the Delta, the upper part of which is well cultivated, while the lower, instead of the lofty forests of the Gangetic Sunderbunds, presents only low brushwood, swamps, and lakes. In the months of July, August, and September, when the S. W. monsoon brings rain in most parts of India, the atmosphere is here often clouded, but no rain falls except near the sea. At Tatta the heats are so violent, and the winds from the sandy deserts on the E. and N. W. so pernicious, that many precautions are used. The manufactures of this city in silk, wool from Kerman, and cotton, have greatly declined. The Mahometan prince of Sindi is tributary to Candahar.

## CHAPTER IV.

## CENTRAL HINDOSTAN, OR THE MIDDLE PROVINCES.

*Boundaries.—Chief Cities.—Sircars.—Ancient Trade.—Pirates.*

BOUNDARIES.] THIS division is chiefly bounded by Gangetic Hindostan on the north, and on the west by the sandy desert and the ocean. The southern limit is the river Kistna, with its tributary stream the Beema, while the east is washed by the bay of Bengal. The length E. to W. from Jigat point to Cape Palmyras, is little less than 1200 B. miles; while the medial breadth is about 400. In it are comprehended the province of Orissa, with part of Golconda, Berar, Dowlahabad, Candehis, and Guzerat, and other districts of inferior name; and on the eastern shore are the British provinces of the Sircars.

CHIEF CITIES.] In a natural transition from the division of India last described, the province of Guzerat first presents itself, like a large promontory, but the shores seem little adapted to commercial purposes. The chief city, Amedabad, is considerable, and well fortified, taken by the English under General Goddard in 1780, restored to the Marattas in 1783. Cambay, at the distance of more than fifty miles, may be called the sea port of this capital; itself a handsome city, formerly of great trade in spice, ivory, silk, and cotton cloths; but the harbour was impeded with sand and mud, and is now little frequented, the trade being chiefly transferred to Surat. The sovereigns of Guzerat were formerly powerful, and long withstood the power of the Monguls.

Surat was formerly more celebrated as the port whence the Mahometans of India embarked on their pilgrimage to Mecca, than for any other circumstance, though reported to have been an important city in ancient times. The Portuguese seized Surat soon after their arrival in Hindostan; and it was among the first places in this country frequented by the English\*.

Bombay, at a considerable distance to the south, is a well known English settlement, on a small island about seven miles in length, containing a very strong, capacious fortress, a large city, a dock yard, and a marine arsenal†. It was ceded to the English in 1662 by the Por-

\* For a recent account of Surat see Stavorus, vol. ii. p. 479. The inhabitants are said to be 500,000, a considerable part of whom are *Moors*, that is Arabs, Persians, Monguls, Turks, professing Mahometanism, but retaining some Pagan rites.

† Kennell, 31.; the name is Portuguese, *Buon bahia*, a good bay.



tuguese, as part of the dower of the queen of Charles II. In the same found, or small bay, are the isles of Salfatte and Elephanta, in which are subterraneous temples.

On leaving the shore and proceeding towards the east of central Hindostan, first occurs the city of Burhampour, of small note. Ellichpour is of considerable importance, being the chief city of Berar. Nagpour is the capital of the eastern division of the Maratta empire, as Poona is of the western, being a modern city of small size. At Nagpour, which may be called the central city of Hindostan, the rainy season commences with the S. W. monsoon.

Not far to the east of this city begins that extensive and unexplored wilderness, which is pervaded by the great river Bain or Baun Gonga, and terminates in the mountains bounding the English Sircars \*. The acquisition of these provinces has been already mentioned in the first chapter. They present little memorable. Nor does there appear to be any capital city, or chief town, in the Delta of the Godavery, or throughout the Sircars, the wide tract of forest on the N. W. having prohibited inland trade or intercourse. Masulipatam is indeed a place of some account: but standing on the northern branch of the Kistna, may be arranged in the southern division of Hindostan.

On turning towards the west, few places of note arise, except Aurungabad, a modern city, deriving its name from Aurungzeb, in whose time it was the capital of the Deccan, or parts to the south of Hindostan Proper. It was afterwards the metropolis of the Nizam's territory, till the preference was given to Hydrabad. Near this city is Dowlatabad, which gives name to the province, with a singular fortress on a peaked rock †.

This central part of Hindostan nearly corresponds with the Deccan, or southern countries of the Monguls, who did not pass the Kistna till a recent period; and, instead of using the term in its just acceptation, applied it to the southern provinces of their empire. Though formerly the seat of great power, and the western coasts greatly frequented by foreign merchants of all nations, the harbours have since been impeded, and the commerce has declined, being now chiefly transferred to the Ganges, which present such superior advantages as amply compensate for the greater distance of the voyage. The Roman and Arabian fame of the western shores has vanished: and silence prevails in the streets of Barygaza or Baroach, the port of the great inland city Tagara, whence the products of India, gems, ivory, myrrh, pepper, ginger, and cotton cloths, plain or ornamented with flowers, were, in the time of Arrian, exported to the western world.

In later times the southern part of this coast was remarkable upon another account, being the chosen residence of daring pirates. Yet these freebooters were known even to Pliny and Ptolemy, being stimulated in all ages by the richness of the commerce. They resembled on a small scale the piratical states of Barbary, and a succession of *Angria* was continued till 1756, when we seized Gheriah, the principal fortress.

\* See Mr. Blunt's journey, above quoted, for minute details concerning this formerly obscure region. *Asiat. Reg.* ii. 128—200. This important journey appears to have been undertaken solely with geographical views; and it is said that the East India Company entertain the highly laudable intention of publishing an entirely new map of Hindostan.

† See the print, Bernoulli, l. 480.

## BOUNDARIES.]

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## CHIEF CITIES.]

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## CHAPTER V.

## THE SOUTHERN DIVISION OF HINDOSTAN.

*Boundaries.—British Possessions.—Chief Cities and Towns.*

**BOUNDARIES.]** THIS part, which may also be called the Deccan or South, in the most proper acceptation of the term, is bounded, as already explained, by the river Kistna, and its most northern subsidiary streams flowing into the Beema. Hence it will extend from the latitude of Bombay to the southern point of Cape Comorin, about 830 British miles in length, and about 350 of medial breadth. It contains nearly the whole of the province of Visapour, and the most important part of that of Golconda, with the central kingdom of Mysore, the long eastern province of Carnada, or the Carnatic, the principalities of Tanjore, Travancore, and the Samorins of Calicut, the pepper coast of Canara, and other districts, of which Conam is supposed to be the Kamkam which the Arabian authors mention as adjoined to the territory of the Balhara. In this division of Hindostan may also be included the island of Ceylon, the coasts of which are now possessed by the English, who have supplanted the Dutch; while the native princes retain the extensive inland parts.

**BRITISH POSSESSIONS.]** In addition to the district around Madras, the British power was in 1792 and 1799, extended over wide provinces in the south and west of Mysore, and Seringapatam the capital is also in our possession, so that our territories in this portion of Hindostan only yield in extent and consequence to those on the Ganges. Seringapatam is not only detached, but is by its inland situation little adapted for a commercial capital; it may, therefore, be perhaps expected that Calicut, an ancient and celebrated emporium, or some other place on that coast, will be selected as a metropolitan town of the new acquisitions.

**CHIEF CITIES.]** In recent times Seringapatam may be regarded as the most important city in this portion of Hindostan. It is situated in an isle, surrounded by the river Caveri, which is even here about five feet deep, and runs over a rocky channel. The length of this isle is about four miles, and the breadth about a mile and a half; the western side being allotted to the fortress, distinguished by regular out-works, magnificent palaces, and lofty mosques: for Tippoo and his father were Mahometans. The environs were decorated with noble gardens; and among the means of defence was what is called the *bound hedge*, consisting of every thorny tree or caustic plant of the climate, planted to the breadth of thirty to fifty feet. When the strength of the fortifications of all kinds, and the number of Tippoo's troops and artillery, are considered, our repeated successes must afford a convincing proof that no climate can overcome British courage, conduct, and perseverance.

In this central territory we also possess several considerable towns, Salem and Attore in the east; Dindigul, Coimbatore, Palicand, on the south; and on the western coast, Paniany, Ferokebad, Calicut, now nearly deserted, Tellicherry, Mangalore, and our northern possession of Carwar is within forty miles of the Portuguese settlement of Goa; while on the south we approach within a like distance of Cochin. Of these

these places, Calicut is memorable as the first Indian port visited by the Portuguese under Vasco de Gama, and as the seat of the Zamorins, who at that period appear to have possessed the whole Malabar coast from Goa to Cochin.

The native rajas of Mysore, a part of whose dominions we have also shared, were princes of some eminence, supplanted by the Mahometan usurpation of Hyder. In the Carnatic we have long held Madras, where our ancestors settled about 1640; but the fortress, which is strong, and includes a regular well-built city, is of modern date. Unhappily there is no port, nor is there indeed one haven for large vessels, from the mouth of the Ganges to Trincomali on the eastern side of Ceylon, which renders this last of singular benefit to our commerce. Through this wide extent of fifteen degrees, or more than 1000 British miles, the coast forms nearly an uniform line, infested with a dangerous surf, and scarcely accessible except in the flat-bottomed boats of the country. But if found necessary European industry might certainly form a port at the wide but impeded mouths of the Godavery, the Kistna, or the Caveri; and when our colonies shall have assumed a permanent and steady progress of population it is probable that such designs may be executed.

Not far from the western frontier of our settlement at Madras stands Arcot, esteemed the capital of Carnata or the Carnatic. The Nawab\* often resides at Madras. In his dominions there are several celebrated temples, visited by numerous pilgrims; and in general the southern parts of Hindostan display more numerous edifices, and other marks of civilization, than the northern.

Having thus briefly mentioned the British possessions in this quarter of Hindostan, and their nearest ally, it may be proper to indicate a few other remarkable places to the south of these possessions. Tranquebar is a noted Danish settlement in the kingdom of Tanjore, which embraces the wide Delta of the Caveri. This settlement was formed about 1617, and has been chiefly remarkable on account of the Lutheran missionaries, who resorted hither to convert the Hindoos, and have sometimes contributed to illustrate natural history. Pondicherry was the principal settlement of the French, founded in 1674, and before the war of 1756, was a large and beautiful city.

On the western coast, or that of Malabar, stands Cochin, on the northern point of a long tract of land, forming a kind of island, surrounded on the east by a creek of the sea, which receives several streams. But this seemingly ample harbour is obstructed by a dangerous bar. When the Portuguese first visited Hindostan, Cochin and the surrounding territory were possessed by a native raja, and the celebrated Vasco de Gama died here in 1525. This city remained subject to the Portuguese till 1660, when it was taken by the Dutch. The surrounding creeks and marshes of this low and unhealthy shore abound with fish and game†.

To the north of the British territories first occurs Goa, formerly a capital settlement of the Portuguese, and a noted seat of their Inquisition. This city, once magnificent, stands on a small island in the midst of a beautiful bay, which receives a rivulet called the Gonga, and two or three others from the Balagauts, or highest mountains of Suckhieu,

\* This word, also written *Nabob*, implies lieutenant-governor, or viceroy; but the title became hereditary.

† *Wesley*, 130. gives a good account of Cochin

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Extent and Name. —  
Towns. — Manufactures  
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\* Pennant,

which form a grand distant prospect, while the intervening scene is variegated with hills, woods, convents, and villas. It was seized by the celebrated Albuquerque, the greatest of the Portuguese commanders in India. A.D. 1513. It afterwards became another Malacca, another centre of Portuguese trade \*. The harbour is ranked among the first in India, and if in the hands of the English, would probably resume its former consequence.

The other parts of the coast presenting few remarkable objects it will be proper to pass the mountainous ridge, and first visit Porna, the capital of the western empire of the Marattas, but a mean, defenceless city; the archives of the government, and in all appearance the chief seat of power, being at Poorunder, a fortress about eighteen miles to the south-east.

Viliapour, in the Maratta territory, also called Bejapour, is a considerable city, and was once the capital of a large kingdom of the same name. In the vicinity are celebrated diamond mines.

Hydrabad is the metropolis of the Nizam's territory, and particularly of the celebrated kingdom or province of Golconda, but seems otherwise little remarkable. Betwixt these two last named cities stands Calberga, formerly the capital of a powerful kingdom, that of the Deccan, under the Bamineah dynasty, as already mentioned in the general view of Hindostan. On passing the Kistna, few places of distinguished note occur. The regions on the great river Toombuddra, which rises nearly in the parallel of Seringapatam, and pursues a northern course of about 350 British miles, till it joins the Kistna after passing Canoul, have been delineated with superior accuracy in Rennell's last map, Apr. 1800.

## ISLAND OF CEYLON.

*Extent and Name. — Religion. — Population. — Manners and Customs. — Towns. — Manufactures. — Climate. — Rivers. — Mountains. — Forests. — Zoology. — Mineralogy. — Pearl Fishery. — Other Isles.*

EXTENT AND NAME.] **T**HOUGH this island is not above a fifth part of the size ascribed to it by the strange exaggeration of the ancients, it still approaches to that of Ireland, being generally supposed to be about 260 B. miles in length by about 150 in breadth: but in the wide continent of Asia territory is on so large a scale, that what in Europe would constitute a kingdom is here scarcely a province. This isle is the Taprobana, Salice, and Siedebea of the ancients, the Serendib of the Arabians: in the Hindoo language it is called Lanca; and the people are doubtless of Hindoo origin. Its history is little known. In the reign of Claudius, ambassadors were sent to Rome by a Singalese rajia, raja, or king, whom Pliny, mistaking his title for his name, has called Rachia †. When the Portuguese seized this island, 1506, the chief monarch was the king of Cotta; but the

\* Pennant, i. 112.

† Pliny, vi. 22.

central province of Candea, or Candi, afterwards appears as the leading principality. The Portuguese retained possession of the shores (the inland parts rising to a high table land, bounded by forests and difficult passes,) till about 1660, when they were expelled by the Dutch, between whom and the king of Kandi a war arose 1759, which terminated 1766 by the submission of the latter, who surrendered all the coasts, and agreed to deliver yearly a quantity of cinnamon at a low rate\*. From the sordid domination of the Dutch it has recently passed under the more liberal banner of British power.

**RELIGION.]** The religion of Ceylon is the ancient worship of Boodh, whose images appear with short and crisped hair, because it is fabled that he cut it with a golden sword, which produced that effect†. The worship of Boodh is supposed to have originated in Ceylon; and thence to have spread to ancient Hindostan, to Exterior India, Tibet, and even to China and Japan. Such are the traditions in Siam, Pegu, &c. which suppose that Boodh, probably a kind of Confucius or deified philosopher, flourished about 540 years before the Christian era; and as the Boodhis in general shew a prodigious superiority of good sense to the visionary Brahmins, their accounts deserve more credit than the idle dreams and milionary chronology of the Pundits. Others however suppose that the worship of Boodh originated in Exterior India‡.

**POPULATION.]** There does not yet appear to be any authentic intelligence concerning the population of Ceylon; but as it seems to remain almost in a state of nature, the inhabitants cannot be inferred to be numerous. The hundreds of cities mentioned by ancient writers are now esteemed completely fabulous; nor does there seem to be one place deserving the name of a city, mentioned either in ancient or modern record. This island is only important in a commercial view, from its celebrated products of cinnamon and gems. The harbour of Trincomali on the east is to us of great consequence, because there is none on the eastern coast of Hindostan: and it has even been suggested that in case any revolution, to which all human affairs are subject, should expel us from the continent of Hindostan, this island might afford an extensive and grand asylum, where the British name and commerce might be perpetuated.

**MANNERS AND CUSTOMS.]** The natives of Ceylon, called Singalese, either from a native or Portuguese term, are not so black as those of Malabar, and have a few manners and customs distinct from other Hindoos. It is said that several brothers may have one wife in common, as in Tibet, but the polygamy of males is also allowed§. In general chastity is little esteemed in the oriental countries; and the morality of many nations is so lax in this respect, that the intercourse of the sexes is considered as far more indifferent than the use of certain foods. The language is rather peculiar; but some of the natives understand both the Tamulic and that of Malabar.

**TOWNS.]** The native town Kandi, in the centre of the isle, seems to be of small size and consequence, and probably only distinguished by a palace and a few temples||. It was taken by the Portuguese in 1590; but

\* Wefdin, 42.

† Af. Res. vi. 450.

‡ There are three chief distinctions between the priests of Boodh and the Bramins; the former may lay down the priesthood; they eat flesh, but will not kill the animal; and they form no cast nor tribe, but are from the mass of the people.

§ Wefdin, 403.

|| Mandelstø, 279, who gives a list of the other towns.

no recent traveller power.

The chief town Colombo, a handsome town, is elegant, but the cool air\*. Ceylon climate is not so hot as the marthy exhalations of where the Dutch put Singalese languages, as that of Nigombo.

The northern part of the island is the town of Jafnapatam, the grand pearl fishery, a miserable datchey, a miserable from Aripoo, a village bridge supply inexhaustible.

On pursuing the shore banks, or rocks; but the mouth of the Morvil (probana; and was despoiled on the same side.

But the southern side is full of gems and other rich products. The most southern promontory where cinnamon were collected, is a city†. Not far to the south is called, a handsome town on a rock§.

**MANUFACTURES.]** The manufactures in this island; but the works in gold and iron, with cinnamon, pepper, stones be forgotten among the bitter in recent use, the country or district seems to be a country of a rich fat soil; and, useful vegetables.

**CLIMATE.]** The climate of the adjacent continent; the air more cool and somewhat resembles that of the centre, being surrounded by breadth. High mountains and plants, and many plants which by the Hindoos is of a rich fat soil; and, useful vegetables.

**RIVERS.]** There are many rivers of which the chief is the capital in his time, and the royal palaces being kept a treasure of gems are decorated with slight

\* Thunberg, iv. 173.

‡ Thunberg, iv. 193.



no recent traveller appears to have visited this deep recess of sovereign power.

The chief town of the Portuguese, Dutch, and English possessions, is Colombo, a handsome place, and well fortified; the residence of the governor is elegant, but only consists of one floor, with a balcony to receive the cool air\*. Ceylon being exposed on all sides to the sea breezes, the climate is not so hot as that of Hindostan; far less pestiferous, like the marshy exhalations of Batavia. At Colombo there is a printing press, where the Dutch publish religious books in the Tamulic, Malabar, and Singalese languages. The name of Colombo seems indigenous, as well as that of Nigombo, a fortress a few miles to the N. of this capital.

The northern parts of Ceylon are chiefly left to the natives, but the town of Jafnapatam, or Jafna, was a Dutch settlement in a detached isle. The grand pearl fishery is conducted in the gulph of Manar, near Condathe, a miserable place in a sandy district, to which water is brought from Aripoo, a village four miles to the south: the shoals near Rama's bridge supply inexhaustible stores of this valued production†.

On pursuing the shore towards the east, it is mostly guarded by sandbanks, or rocks; but the whole harbour of Trincomali opens at the mouth of the Morvil Ganga, the Ganges of Ptolemy's large map of Taprobana; and was defended by a strong fortress. Batacola is an inferior haven on the same side of the island.

But the southern side of Ceylon has been chiefly visited, abounding with gems and other rich productions. Matura was a Dutch factory near the most southern promontory called Dondra, where excellent kinds of cinnamon were collected, and varieties of precious stones abound in the vicinity‡. Not far to the W. of Matura is Gale, or Galle, near a point so called, a handsome town strongly fortified, on the projecting angle of a rock§.

MANUFACTURES.] There is little mention of any manufactures conducted in this island; but the natives seem not unskilled in the common works in gold and iron. The Dutch ships used to sail from Galle, laden with cinnamon, pepper, and other spices: nor must pearls and precious stones be forgotten among the articles of export. The Colombo wood, a bitter in recent use, receives its name from the capital; but its native country or district seems still unknown.

CLIMATE.] The climate and seasons correspond in some degree with the adjacent continent; yet the exposure on all sides to the sea renders the air more cool and salubrious. The general aspect of the country somewhat resembles that of southern Hindostan; a high table land, in the centre, being surrounded with low shores, about six or eight leagues in breadth. High mountains, prodigious forests, full of aromatic trees and plants, and many pleasant rivers and streams diversify this country, which by the Hindoos is esteemed a second paradise. The vales are of a rich fat soil; and, when cleared, amazingly fertile in rice, and other useful vegetables.

RIVERS.] There are five considerable rivers described by Ptolemy; of which the chief is the Morvil Ganga, on which stood Maagramum, the capital in his time, and modern Kandi stands on the same stream, one of the royal palaces being on an isle in that river, where the monarch keeps a treasure of gems; and his officers, like those of Exterior India, are decorated with slight chains of gold.

\* Thunberg, iv. 175.

‡ Thunberg, iv. 195. 231.

† Af. Res. v. 397.

§ Ib. 194.



The Phasis of Ptolemy running N. is perhaps the stream which passes to the N.W. by Ackpol. His western stream of Soana is perhaps that which enters the sea in that direction, near the centre of the isle. The Azanus, S.W., seems that near the point of Galle; while his Baracus, E., is the Barokan.

**MOUNTAINS.]** The chain or chains of mountains run N. and S., the southern part being called Malea by the Greek geographer; a mere native term for a mountain as Ganga for a river. The northern part is by Ptolemy called Galibe. These mountains seem granitic, and are peculiarly rich in precious stones imbedded in primitive quartz. What the Mahometans have termed Adam's Peak is esteemed the highest; and is in Sanferit called Salmala, Boodh being fabled to have ascended from it to heaven.

**FORESTS.]** The forests are numerous and large, the haunts of innumerable elephants, like the Gauts of southern Hindostan. An ample account of the botany of this island is given by the skilful Thunberg; one of the most peculiar and precious trees is that producing the best cinnamon.

**ZOOLOGY.]** The elephants of Ceylon are supposed only to yield in beauty to those of Siam, and chiefly frequent the southern part of the island. Buffaloes are also found in a wild state, while the tame are used in rural economy. The wild boars are numerous and extremely fierce; nor is the tiger unknown. Bears, chakals, and many tribes of deer and monkeys, are also natives of Ceylon. The alligator, frequent in the Hindoo rivers, here sometimes reaches the length of eighteen feet. Among a vast variety of elegant birds, the peacock, that rich ornament of the Hindoo forests, swarms in this beautiful island.

**MINERALOGY.]** Ceylon, opulent in every department of natural history, presents many minerals of uncommon beauty. Not to mention iron, gold, plumbago, &c., Thunberg has given a list of the precious stones, among which are the genuine ruby, sapphire, and topaz. The finest rock crystals, both the colourless, and those of a violet colour called amethysts, are found here in abundance, and are generally dark brown or yellowish; while those of other colours come from Brazil and Tyrol. It is also asserted that this island produces the genuine emerald, which is commonly esteemed peculiar to Peru. The cat's eye seems the characteristic mineral of Ceylon, as the noble or genuine opal is of Hungary.

**PEARLS.]** Nor must the pearl fishery be forgotten, which commonly begins on the N.W. shore about the middle of February, and continues till about the middle of April, when the S.W. monsoon commences. The village of Condatchey is then crowded with a mixture of thousands of people of different colours, countries, casts, and occupations; with numerous tents and huts, and bazars, or shops; while the sea presents many boats halting to the banks, or returning with the expected riches. The divers are chiefly Christians or Moslems, who descend from five to ten fathoms, and remain under water about two minutes each bringing up about a hundred oysters in his net. These pearls are always formed like the coats of an onion, around a grain of sand or some other extraneous particle. The yellow or gold coloured are most esteemed by the natives; and some are of a bright red lustre, but the dull grey and blackish are of no value.

**OTHER ISLES.**  
coasts of Hindostan a particular description of the man and Nicobar account of them on the coast they are that in the Hindostan those which marine dives, at more than inclosure of small shallow water between and the trade is in guage is Singalese, form a more extensive trade in cocoa nut in the vicinity.

*Divisions. — Name. — Provinces. — History. — Eastern Persia.*

**DIVISIONS.]** THE most distracted and renowned for wisdom and mutual enmity and political. This divided into two divisions near the Caspian, second kind of independence and exact delineation limits, and many of them violably fixed by the embrace modern Persia combined with the most recent **NAME.]** The name throughout this might the appellation of En has, however, been little times, have termed the included all the wide region the Amu of the Russia beyond that celebrated

OTHER ISLES.] There are no other isles of any consequence near the coasts of Hindoostan. Those called Lacadives and Maldives scarcely merit a particular description in a work of this general nature; and the Andaman and Nicobar isles properly belong to Exterior India, where a short account of them may be found after the peninsula of Malacca, to which coast they are the most approximated. It may here suffice to observe that in the Hindoo language *dive* implies an isle: and Ptolemy computes those which mariners saw before they reached Ceylon, that is the Maldives, at more than thirteen hundred. They form as it were an oblong inclosure of small low regular isles around a clear space of sea with very shallow water between each. They are governed by a chief called Atoll, and the trade is in cowrie shells, with cocoa nuts and fish \*. The language is Singalese, and there are some Mahometans. The Lacadive islands form a more extended group, though only thirty in number. They also trade in cocoa nuts and fish; and ambergris is often found floating in the vicinity.

## PERSIA.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

*Divisions. — Name. — Extent. — Population. — Progressive Geography. — Provinces. — Historical Epochs. — Ancient Monuments. — Modern History. — Eastern Persia.*

**DIVISIONS.]** THE ancient and powerful monarchy of Persia has, during the greater part of last century, been in a most distracted and divided condition, and the inhabitants formerly renowned for wisdom and benignity, have been degraded, by civil discord, and mutual enmity and distrust, into a temporary debasement both moral and political. This empire seems at length, in some degree, to have settled into two divisions, the eastern and the western; while the provinces near the Caspian, secured by mountains and fastnesses, have asserted a kind of independence. These circumstances are unfavourable to a just and exact delineation of the present state of the country; but the chief limits, and many of the most important geographical topics, have been inviolably fixed by the hand of nature; and the following description shall embrace modern Persia in general, as it was in the time of Chardin, combined with the most recent and authentic information.

**NAME.]** The name of Persia spread from the province of *Pars* or *Fars* throughout this mighty empire, in like manner as, among other instances, the appellation of England originated from a small tribe. This name, has, however, been little known to the natives, who in ancient and modern times, have termed their country *Iran*, under which denomination were included all the wide regions to the S. and W. of the river Oxus, or Gihon, the Amu of the Russians and Tatars; while the countries subject to Persia beyond that celebrated river were in ancient times styled *Aniran*.

\* Penant, i. 51.

**EXTENT.]** From the mountains and deserts which, with the river Araba, constitute the eastern frontier towards Hindostan, Persia extends more than 1200 miles in length, to the western mountains of Elevend, and other limits of Asiatic Turkey. From south to north, from the deserts on the Indian sea, in all ages left to the Ichthyophagi, or wild tribes of Arabs who live on fish, to the other deserts near the sea of Aral are about 1000 B. miles.

**POPULATION.]** The original population of the mountainous country of Persia appears to have been indigenous, that is, no preceding nation can be traced; and in the opinion of all the most learned and skilful inquirers, this nation is Scythic or Gothic, and the very source and fountain of all the celebrated Scythian nations. While the southern Scythians of Iran gradually became a settled and civilized people, the barbarous northern tribes spread around the Caspian and Euxine seas; and besides the powerful settlements of the Getæ and Massagetæ, the Gog and Magog of oriental authors, and others on the north and east of the great ridge of mountains called Imaus, or Belur Tag, they detached victorious colonies into the greater part of Europe many centuries before the Christian era\*. The ancient Medes and Parthians in the north of Persia appear however to have been of Sarmatic, or Slavonic origin, and to have spread from their native regions on the Volga, towards the Circassian mountains, along which ridge they passed to the south of the Caspian, the ancient site of Media and Parthiène. The grand chain of Caucasus forms a kind of central point of immigration and emigration from the E. and W. whence the great variety of nations and languages that are traced even in modern times. The late very learned and excellent Sir William Jones, who did honour to his country and century, has repeatedly expressed his opinion that while the Parfi and Zend, or proper and peculiar Persian language, is of the same origin with the Gothic, Greek, and Latin; the Pehlavi is Assyrian or Chaldaic.

**PROGRESSIVE GEOGRAPHY.]** The contests of ancient Persia with Greece, and the Greek colonies established in Asia Minor, then within the wide limits of the Persian empire, have rendered the ancient geography of this country not a little luminous. Herodotus, the father of history, was born at Halicarnassus, one of these colonies; and his account of the twenty satrapies, or great provinces of the Persian empire, in the reign of Darius Hystaspes, or Ghushtasp, has been ably illustrated in a late work of Major Rennell. The present design however only embraces the modern provinces and limits; and the former may be thus arranged, proceeding from the W. towards the N. E. after remarking that the limits of the ancient and modern provinces often coincide, as they consist of rivers and ranges of mountains.

**PROVINCES.]** 1. Georgia, or more properly Gurgustan, in which may be included Daghistan and Shirvan. These may be considered as constituting the Albania of the ancients; a name applied in different quarters to mountainous regions.

2. Erivan, a large portion of ancient Armenia, between the river Kur, or Cyrus on the north, and the Aras or Araxes on the south.

3. Aderbijan, including Mogan, the Atropatena of the ancients.

4. Ghilan to the east of the last on the Caspian sea, and synonymous with the ancient Gela.

\* See the author's Dissertation on the Scythians or Goths, in his Inquiry into the History of Scotland, 2 vols. 8vo.

5. To close the list of countries on the Caspian, Mazendran appears encircled on the south by a lofty branch of the Caucasian chain, the seat of the Mardi of antiquity; to the E. of which was the noted province of Hyrcania, now Corçan and Dahistan.

6. Returning to the W. frontier, there occurs Irac Ajemi, chiefly corresponding with the ancient Ecbatana. In the south of this province is Ispahan, the modern capital of Persia.

7. Chosistan extending to the river Tigris; but the capital Buffora, or Bafsa, after a recent vain attempt of the Arabs, remains subject to the Turks. This province corresponds with the ancient Susiana.

8. The celebrated province of Fars, Persis, or Persia Proper, surrounded with mountains on the N. the W. the S., and on the E. separated by a desert from Kerman. Fars contains the beautiful city of Shiraz, with Itakar and the ruins of Persepolis.

9. Kerman, the ancient Carmania.

10. Laristan, a small province on the Persian gulph to the S. E. of Fars, of which some regard it as a part; nor does the subdivision seem to be known in ancient times, though the long ridges of mountains on the S. of Fars, and generally about 60 B. miles from the Persian gulph, seem here naturally to indicate a maritime province; which, if the ancient Persians had been addicted to commerce, would have been the seat of great wealth by intercourse with Arabia, Africa, and India.

11. To the E. of Kirman is the large province of Mekran, which extends to the Indian deserts, and is the ancient Gadrustan or Gedrosia. This province has always been unfertile and full of deserts: and classical geography here presents only one mean town called Pura, probably Borian, on the most W. frontier.

12. Segistan, another wide frontier province towards India, was chiefly the Arachosia and Saranga of antiquity; while the province of Paropamisus in the N. E. encroached on Candahar and the modern limits of Hindostan.

13. The grand and terminating division of modern Persia in the N. E. is Corasan, bounded by the Gihon or Oxus on the N. E., and on the S. by the lake of Zere, or Zurra, the grand Aria Palus of antiquity. The classical provinces comprised within Corasan are, in the N. Margiana, and in the S. Aria.

Besides these provinces, and exclusive of Asiatic Turkey on the W. the ancient Persian empire comprised Bactriana or Balk, which may be termed a wide and well watered kingdom of between 300 and 400 B. miles square; and on the other side of the Oxus, Sogdiana, or the country on the river Sogod, which passes by modern Samarcand. The fifteenth satrapy of Herodotus comprises the Sacæ and Caspii, probably the country of Shash, and some other tribes nearer the Caspian sea. This province adjoined on the W. to Corasmia, which belonged to the sixteenth satrapy, and is now the desert space of Kharism, with the small territory of Khiva.

The countries last mentioned form so considerable a part of what is called Independent Tatary, and have in all ages been so intimately connected with Persian history, that some account of them shall be annexed to this article; which, joined with that in the Chinese empire, will complete the description of the countries between the dominions of that great state and those of Russia and Persia, so far as the very imperfect materials will allow. The progressive geography of Persia may be traced through Strabo, Pliny, the historians of Alexander, and other classical sources; and afterwards through the Arabian authors Ebn Haukal, Abulfeda,

&c. &c. to the modern labours of Chardin, and other intelligent travellers.

**HISTORICAL EPOCHS.]** The chief historical epochs of the Persian empire may be arranged in the following order :

1. The Scythians or barbarous inhabitants of Persia, according to the account of Justin, conquered a great part of Asia, and attacked Egypt about 1500 years before the reign of Ninus the founder of the Assyrian monarchy ; that is, so far as the faint light of chronology can pretend to determine such remote events, about 3660 years before the Christian æra. The Egyptians, a people of Assyrian extract, as the Coptic language seems to evince, were from superior local advantages civilized at a more early period, and their genuine chronology seems to begin about 4000 years before Christ. The venerable historical records contained in the scriptures attest the early civilization and ancient polity of the Egyptians. The first seat of the Persian monarchy was probably in the N.E. on the river Oxus ; while the Assyrians possessed the Euphrates and the Tigris, and the S.W. of Persia.

The history of the Assyrian empire begins with Ninus about 2160 years before Christ, who is said to have formed an alliance with the king of Arabia, and, in conjunction with him, to have subdued all Asia, except India and Bactriana ; that is, according to the ancient knowledge, he subdued Asia Minor and the west of Persia.

2. Zoroaster king of Bactriana is said to have been contemporary with Ninus, and to have invented magic ; that is, he was a wise man, who could produce uncommon effects by common causes. But the history of this Persian lawgiver is lost in remote antiquity.

3. Cyrus founds what is called the Persian empire, 557 years before the Christian era, and soon after takes Babylon. This great event may be said only to have disclosed to the Persians the civilized nations of the west, for the native Persian histories ascend to Kayumarras, great grandson of Noah, and the ancient traditions chiefly refer to wars against Touran and India, which indicate the primitive eastern position of the people.

4. The overthrow of the first Persian empire by Alexander, B. C. 328, followed by the Greek monarchs of Syria, and the Grecian kingdom of Bactriana, of which last an interesting history has been compiled by the learned Bayer. It commenced about 248 years before Christ, and contained several satrapies, among which was Sogdiana.

5. The Parthian empire, which likewise began about 248 years B. C. This was a mere revival of the Persian empire under a new name.

6. Ardshur, or Artaxerxes, about the year 220 of the Christian era, restores the Persian line of kings ; this dynasty being called Sassanides.

7. The conquest of Persia by the Mahometans, A. D. 636. The native kingdom was revived in Corasan, A. D. 820 ; and after several revolutions resumed its former situation.

8. The accession of the house of Boniah, A. D. 934.

9. That of the house of Sefi or Sofi, A. D. 1501, whence the title of Sofis of Persia, for it is unnecessary here to repeat the conquests of Zingis and Timur, and the subsequent divisions and revolutions.

10. The reign of Shah Abas, surnamed the Great, A. D. 1586.

11. The brief conquest by the Afgans, 1722 ; and consequent extinction of the house of Sefi, and elevation of Nadir, surnamed Thamas Kouli Khan, A. D. 1736. This ferocious chief was born in Corasan ; and after a reign of eleven years was slain 20th June, 1747, near the city of Meshid, in the same country.

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**ANCIENT MONUMENTS.]** Some account of the modern history and state of Persia shall be given, after a very brief view of the ancient monuments. Of these the ruins of Persepolis are the most celebrated and remarkable. They are situated at the bottom of a mountain, fronting S. W. about forty miles to the north of Shiraz. They command a view of the extensive plain of Merdasht, and the mountain of Rehumut encircles them in the form of an amphitheatre; the nature of these ruins may be seen in the numerous plates which have been published; and it would be an idle attempt to describe in few words the grand portals, halls, and columns and numerous relievos and devices. There are many inscriptions in a character not yet explained, the letters of which somewhat resemble nails, disposed in various directions.

Several small edifices and caverns of similar architecture are found in various parts of Persia, all which undoubtedly preceded the Mahometan conquest, but it is difficult to ascertain their precise era.

In many parts of Persia their must remain several curious monuments of antiquity, which might well excite the curiosity of the learned traveller to investigate this interesting country. The design of the present work rather requires some information concerning the modern state of this once powerful monarchy, which shall be chiefly derived from Mr. Franklin's view of the transactions in Persia from the death of Nadir Shah, 1747, to 1788; combined with the accounts of Gmelin, who by command of the empress of Russia inspected the northern provinces and Ghilan; and those of Pallas, in his last travels during the years 1763 and 1764.

**MODERN HISTORY.]** Nadir Shah was succeeded by his nephew Adil, who, after a transitory reign, was followed by his brother Ibrahim. Meanwhile Timur Shah reigned in Cabul, Candahar, and the Persian provinces adjacent to Hindostan; and availing himself of the confusion in Persia he besieged Meshid, which he took after a blockade of eight months.

This event was followed by such anarchy and confusion, that it seems impossible to settle the chronology of the infinite crimes which were committed during the contests of numerous chiefs which desolated almost every province from Gombroon to Russia, leaving indelible marks of destruction throughout the kingdom, and changing even the very character of the people, whose prudence is degenerated into cunning, and their courage into ferocity.

At length the government of western Persia was happily settled for a considerable space of time in the person of Kerim Khan, who however never assumed the title of Shah, but was contented with that of Vakeel or regent. This great and mild prince had been a favourite officer of Nadir; and at the time of that tyrant's death was in the southern provinces, where he assumed the power at Shiraz, and was warmly supported by the inhabitants of that city, who had observed and revered his justice and beneficence. In reward he embellished this city and its environs with noble palaces, gardens and mosques, improved the highways, and rebuilt the caravanferas. His reign was established by the sword, but was afterwards unfulfilled by blood; and its chief peril arose from extreme mercy. His charity to the poor, and his attempt to restore the commerce of the country are gratefully remembered by natives and Europeans.

Another unhappy period of confusion followed the death of Kerim; his relation Zikea or Saki seized the government, which was contested by another kinsman, Ali Murad. The detestable cruelty of Zikea



led to his own destruction, and he was massacred by his troops at Yezdekast, about six days journey N. of Shiraz, on the road to Ispahan.

Abul Futtah was then proclaimed king by the soldiers, and to him Ali Murad submitted; but Sadick, brother of Kerim, opposed his nephew's elevation. Sadick marched from Buffora at the head of an army, dethroned the young monarch, and after depriving him of his sight, ordered him into strict confinement.

Ali Murad, then at Ispahan, rebelled against this usurper, and with an army of twelve thousand men besieged and took Shiraz, and put Sadick to death with three of his children. A son Jaafar was appointed by the new king governor of Kom, a city or province to the N. W. of Ispahan.

Ali Murad was now regarded as peaceable possessor of the Persian throne; but an eunuch called Aga Mamet, or Akau, had, since the death of Kerim, assumed an independent sway in the Caspian province of Mazendran. When advancing against him, Ali Murad fell from his horse and instantly expired. Jaafar having assumed the sceptre, was defeated by Akau at Yezdekast, and retired to Shiraz.

In 1792, Akau again collected an army, and conquered the cities of Kasbin and Tekheran or Tahiran. Having then reinforced his troops with those of Ali Khan of Hamfa, a prince who had asserted a kind of independency since the death of Ali Murad, he advanced against Jaafar, who retreated to Shiraz, where he perished in an insurrection, and his son Luturf fled to the south.

Akau had now no rival except Hidaet, khan of Ghilan, who was forced to fly from Rasht his place of residence, but was killed near the port of Sinfil. In consequence of these events Akau became monarch of all western Persia; and being an eunuch, had nominated for his successor his nephew Baba Serdar.

**EASTERN PERSIA.]** Having thus as briefly as possible discussed the recent history of western Persia, the eastern half yet remains, being unhappily separated in a great degree by high ridges of mountains and sandy deserts, a circumstance which has been repeatedly productive of great disasters to this wide empire.

This natural separation has occasioned great obscurity in the ancient history of Persia, the eastern half remaining a distinct and independent country, of the same general name with the western, but with limits and history totally distinct.

The best materials concerning the kingdom of Candahar seem to be those collected by Rennell; and they are, if possible, yet more scanty than those concerning the western half. Ahmed Abdalla, first king of Candahar, was originally the chief of an Afgan tribe, conquered by Nadir Shah, on whose death he suddenly appeared among his former subjects, and soon erected a considerable kingdom in the eastern part of Persia including most of the Indian provinces ceded by the Mogul to Nadir. He established the capital at Cabul, at a secure distance behind the mountains of Hindoo Koh.

Ahmed died about the year 1773, and was succeeded by Timur, who continued to reside at Cabul; but the monarchy has been styled that of Candahar from a central province. The successor of Timur was Zemaun, who probably still rules this extensive country, which has happily been free from the intestine commotions which have desolated western Persia. Since the great battle of Panniput, fought by Ahmed Abdalla against the Marattas 1761; the kingdom of Candahar seems

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**RELIGION.]** T m been followed by i the country. Yet is followed by the nignity of manners are regarded by the Of the Parsees, remains in Persia, of naphtha near Ba innocent idolators ticism, which has E representing them atrocities. Mr. H particularly worship muzd, or the suppr lieved to have spru chief worshippers of the Parsees retreated they still abound ne excites attention, as voured by birds of other oriental nation

• Forster, ii. 14.  
; Gmelin, in the Deco  
; Travels, i. 369.

to have remained in a pacific state, and the government is of applauded lenity.

The farthest extent of this monarchy on the east comprises Cashmir, which was probably subdued about 1754\*. In the west, according to the opinion of Rennell †, it extends to the vicinity of the city of Ter-shiz, or Turshiz, in the same line of longitude with Meshid, a length of about 900 B. miles. The province of Sindi at the mouth of the Indus, is also subject to Zemaun, with the western part of Moultan, but the remainder on the east bank of that river, and the wide and fertile province of Lahore, are possessed by the Seiks, a warlike nation. The other provinces are Kuttore, Cabul, Candahar, and within the Persian boundary Segistan, and probably Mekran, with the eastern part of Corasan, and the province of Gaur, the medial breadth being probably about 500 miles. The remainder of Balk and Great Bucharina belong to Independent Tatars. The chief subjects of Zemaun are the Afgans, or people of the mountains between Persia and Hindostan, who may be considered as the founders of the empire; the others are Hindoos, Persians, and a few Tatars.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Government. — Population. — Army. — Navy. — Revenues. — Political Importance and Relations.*

**RELIGION.]** THE religion of Persia is well known to be the Mahometan, which was introduced by the sword, and has been followed by its usual effects, the destruction and depopulation of the country. Yet the Persians adopt a milder system of this creed than is followed by the Turks and Arabs. Their native good sense and benignity of manners led them to reject several absurdities, whence they are regarded by the other Mahometans as heretics.

Of the Parsees, or ancient worshippers of fire, there seem to be no remains in Persia, except perhaps a few visitors of the fiery eruptions of naphtha near Baku, on the western shores of the Caspian ‡. These innocent idolators have been almost extirpated by Mahometan fanaticism, which has propagated every scandal that malice could invent, representing them as devourers of children, and familiar with other atrocities. Mr. Hanway informs us that these Cnebers, or infidels, particularly worship the everlasting fire near Baku, as emblem of Ormuzd, or the supreme ineffable Creator; while the evil principle believed to have sprung from matter, was styled Ahriman §. But the chief worshippers of the fire of Baku came from Hindostan, to which the Parsees retreated when Abas expelled them from his empire; and they still abound near Bombay, where their singular mode of sepulture excites attention, as they expose their dead in inclosed areas to be devoured by birds of prey, a custom which has been propagated to some other oriental nations. Mr. Hanway says that there were still some

\* Forster, ii. 14. † Page, 152.

‡ Gmelin, in the *Decouvertes Russes*, Berne, 1799, six vols. 8vo. tom. ii. 19.

§ Travels, i. 263.

worshippers of fire at a place thence styled Gueberabad, near Is-  
pahan.

The priests of the Mahometan religion, or Mullas, are in Persia often styled *Akonds*, which signifies readers; and they not only preach in the mosques, but are often schoolmasters\*. The Pechnamas are superior Mullas, or vicars of the Imams†. The Fakirs and Calenders are wandering monks, or rather sturdy beggars; who, under the pretext of religion, compel the people to maintain them in idleness.

**GOVERNMENT.]** The government of Persia, like that of all other oriental states, appears to have been always despotic; but its administration in eastern Persia, or the kingdom of Candahar, is represented as mild. The state of the people seems to be deplorable, being subject to the arbitrary power and extortions of the numerous Khans or chiefs. These are sometimes governors of provinces, sometimes only possessors of small districts, and pretend to hereditary succession, though liable to be forfeited or put to death by the arbitrary mandate of the sovereign. The great Khans are sometimes styled Beglerbergs, or lord of lords; and in time of war Serdars, or generals. Those who command cities are commonly styled Darogas, or governors‡.

**POPULATION.]** The present state of the population of Persia cannot be justly estimated, but it perhaps little exceeds that of Asiatic Turkey, which has been computed at ten millions. Of these perhaps six millions may belong to western Persia; while the other four contribute towards the population of the kingdom of Candahar.

Though Mr. Franklin has supposed that the rival kings in western Persia could not muster more than twenty thousand men each, yet the account of Pallas implies that Aga Mamet raised an army of seventy thousand. But supposing western Persia united, and somewhat reinstated in prosperity, it is not probable that the army could exceed 100,000 effective men, which may probably also be the amount of that of Candahar.

**NAVY.]** From some particular precept in the laws of Zoroaster, which it was impossible to observe at sea, the ancient Persians were never a maritime people, though they commanded an ample gulf with the mouths of the Euphrates and the Tigris. The commerce on the Indian ocean, as well as on the Caspian sea, has been always chiefly conducted by the Armenians, a most industrious and respectable people. Hence the commerce of this country, so advantageously situated, has always been in the hand of strangers; while the natives, with feudal pride, attend to their horses and the chase, and lead what is called the life of a gentleman, neither improving their own property nor the country in general: scarcely one Persian vessel therefore has in any age navigated the sea.

**REVENUES.]** The actual revenues of Persia it is impossible to estimate; but the ruinous state of the country must render it unproductive. The Turkish revenue has been computed at seven millions sterling; and it may perhaps be conjectured with some shew of probability that the monarch of Candahar may draw from his various and extensive pro-

\* Chardin, x. 79.

† The chief prelate is styled Sheikial Sellaum, or head of the faith; also Sadar Cassi, of High Priest; and sometimes Navai, or vicar (of the prophet). Saufon, 20.

‡ Chardin, vi. 41.

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### *Manners and Customs*

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‡ Decouv. Russ. ii. 2

vinces about three millions sterling; while western Persia scarcely supplies two millions. Chardin says that the ancient revenue consisted partly in contributions in kind; Kurdistan, for instance, furnishing butter, while Georgia supplied female slaves; and partly arose from the royal domains, with a third of metals, precious stones, and pearls; and a few duties and taxes. The whole revenue was by some estimated at 700,000 tomans\*, or about thirty-two millions of French livres.

**POLITICAL IMPORTANCE AND RELATIONS.]** The political importance and relations of Persia are now greatly restricted. Were the western part united under one sovereign, it might lend effectual assistance to the Russians in any design against the Turks. But in its recent distracted state, Persia has been little formidable even to the declining power of Turkey; and the Russians seem to entertain no desire of extending their conquests over the mountainous Caspian provinces, which Peter the Great once held and abandoned, so that Persia seems secure on the side of Russia, as well as on that of Turkey and Arabia: this unhappy security being in fact one grand cause of the civil anarchy.

Eastern Persia, or the kingdom of Candahar, appears to have little to apprehend from the Seiks on the other side of the Indus; and the Uzbek Khans of Balk, Bucharia, and Kharism, are disunited and little formidable, though they command a warlike people. It is therefore more probable that these countries may be vanquished by the kings of Candahar, than that any danger should arise from the Uzbeks. A contest may probably happen between eastern and western Persia; but even if united under one sovereign, it would be long before this country could resume her rank among powerful nations.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Education. — Cities. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the Persians, in the seventeenth century, have been amply detailed by Chardin, Thevenot, Sanson, and other travellers.

More modern ideas of Persian manners may be derived from the travels of Gmelin in Ghilan†. The Persians still pride themselves in universal politeness, and are hospitable, not however without the expectation of presents in return. They seem to consider themselves as more wife and sagacious than other nations, yet are passionate; and the recent commotions have imparted a taint of cruelty to the national character‡. Of a sanguine temperament, both rich and poor are gene-

\* The toman is computed at about 8l. 7s. being rather more than equal to two gold mohurs, a gold coin of Hindostan, worth about thirty-two shillings. Chardin computes the toman at forty-five livres of his time.

† *Histoire des Decouvertes faites par divers Savans Voyageurs dans plusieurs contrées de la Russie et de la Perse*. Six vols. 8vo. Berne, 1779—1787.

‡ *Decouv. Russ.* ii. 276.

rally gay; and immoderate mirth will succeed the most violent quarrels. They are extremely attached to the fair sex, and not averse to wine. The general complexion is fair, somewhat tinged with olive; but those in the south about Shiraz, of Candahar, and the provinces towards India, are of a dark brown. They are commonly fat, with black hair, high forehead, aquiline nose, full cheeks, and a large chin, the form of the countenance being frequently oval. The men are generally strong and robust, and inclined to martial exercises, but they are particularly subject to disorders of the eyes. They generally shave the head, and wear high crimson bonnets; but the beard is sacred, and tended with great care. They often wear three or four light dresses, one above the other, fastened with a belt and sash; and they are fond of large cloaks of thick cloth. The women wrap around their heads pieces of silk of different colours; and their robes are rather shorter than those of the men. The Persians eat twice or thrice a day, dining about noon, but the chief repast is the supper, as with the ancient Greeks and Romans. The most usual dish is boiled rice, variously prepared. The meat is boiled to excess, and the meal is enlarged with pot-herbs, roots, and fruits, cakes, hard eggs, and above all sweet-meats, of which they are extremely fond. They are remarkable for cleanliness, both in their persons and habitations.

Marriages are conducted by female mediation; and the pomp and ceremonies somewhat resemble the Russian. Polygamy is allowed; but the first married is the chief wife. The tombs of the rich are often grand, as are the cenotaphs of the twelve Imams, or vicars of the prophets, regarded by the Chias as his only lawful successors.

**LANGUAGE.]** The language of Persia is perhaps the most celebrated of all the Oriental tongues, for strength, beauty, and melody. The excellent work of Sir William Jones on Oriental poetry discloses part of the treasures to be found in this language. In general the Persian literature approaches nearer to the European in solid good sense, and clearness of thought and expression, than that of any other Asiatic nation; as the language itself has been long known to bear a strong affinity to the German, though softened by the long usage of a polished people. One of the oldest remains of Persian literature is the famous Sha Nama, or history of kings, a long heroic poem of Ferdusi. Sadi, an excellent and entertaining moralist, writes in prose mingled with verse, like several of the Icelandic sagas.

Hafiz is the Anacreon of the east, and his tomb is venerated in the vicinity of Shiraz, being itself the chosen shrine of parties of pleasure, who proceed thither to enjoy the delicious situation, and offer libations of the rich Shirazian wine to the memory of their favourite bard, a splendid copy of whose works is chained to his monument. But the sciences in general are little cultivated by the Persians, who are lost in abject superstition, and fond believers in astrology; a proud sophistry which connects the little brief destiny of man with the vast rotation of innumerable suns and worlds.

**EDUCATION.]** The education of the modern Persians is chiefly military; and their gross flatteries, and obliquity of expression, evince that they have totally forgotten the noble system of their ancestors, who in the first place taught their children to speak truth.

**CITIES.]** The capital city of modern Persia is Ispahan. Including the suburbs, its circuit is computed by Chardin\* at about twenty-four

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miles, and the inhabitants at 600,000. It stands on the small river Zenderud, which rises in the mountains of Yaibat, three days' journey towards the north; but Abas the Great, at a prodigious expence pierced some mountains about thirty leagues from Ispahan, and introduced another stream, so that the Zenderud was as large during the spring as the Seine at Paris in the winter; for in that season the melting of the snows, in the high range of mountains, greatly swelled the river. The walls are of earth, and ill repaired, with eight gates, and the streets narrow, devious, and badly paved. But the royal square, and its grand market, the palace of the Seti, and those of the grandees, the mosques, the public baths, and other edifices, are for the most part splendid. The suburb of Iulfa, or Yulfa, is very large, and possessed by the Armenians. The environs of Ispahan are pleasant, and, like most other Persian towns and cities, diversified by the neighbourhood of mountains. This capital, after the visit of Chardin, was greatly reduced, inasmuch that a Persian merchant asserted to Mr. Hanway that not above five thousand houses were inhabited, having been taken and plundered by the Afghans in 1722.

The second city, at least in fame, is Shiraz, which has been recently visited and described. This capital of Farsistan, or Persis, is situated in a fertile valley, about twenty-six miles in length and twelve in breadth, bounded on all sides by lofty mountains: the circuit of the city is about four miles, surrounded with a wall twenty-five feet high, and ten thick, with round towers at the distance of eighty paces. The city is built of brick; and before it is a great square, with a park of miserable artillery. The mosque of the late Kerimis splendid but unfinished. The tomb of Hafiz is on the N.E. side, about two miles distant from the walls; and at the foot of the mountains, in the same direction, is the tomb of Sadi, with a remarkable channel for water hollowed in the rock. Many summer houses with gardens, in the vicinity of Shiraz, were built by the late regent Kerim, the plantations being avenues of cypress and tycamore, leading to parterres of flowers, and refreshed with fountains. The neighbouring fields are fertile in rice, wheat and barley, the harvest beginning in May, and ending in the middle of July. Provisions are cheap, and the mutton excellent. The famous horses of Fars now yield greatly to those of Dush Tistan, a province to the S. W. At Shiraz there is a glass manufactory; but woollen goods and silks are brought from Yezd and Kerman, copper from Tauriz, sword-blades from Kom. Abu Shehar, or Bulheer, supplies Indian articles. The climate of this celebrated city is delicious, particularly in the spring, when numerous flowers perfume the air; and the boobul, or oriental nightingale, the goldfinch, linnet, and other warblers, delight the ear.

Having thus briefly described the two most celebrated cities, the others shall be mentioned in a geographical progress from the north, beginning with those of western Persia. Teflitz, the capital of Georgia, is a large and populous town, but meanly built, rising from the river Kur along the side of a hill†. There are fine springs of hot water, a favourite resort of the inhabitants. The chief trade is in furs, sent to Turkey and the south of Persia. The present circuit is about two English miles, and it is supposed to contain 20,000 inhabitants, more than half being Armenians‡. It must not be forgotten that during the late confusion in Persia, Georgia has effected at least a temporary independence, supported by

\* Franklin, *passim*.

† Tournefort, ii. 205.

‡ Ellis, *Memoir*, p. 49.



Russia; so that the dominion of prince Heraclius is only nominally included within the Persian boundary.

Derbent was formerly a place of noted strength on the Caspian sea, but was taken by Peter the Great of Russia, and afterwards by Catherine II. in 1780. Gmelin visited this city a few years before, and describes it as situated on the side of a mountain, extending almost to the sea. The shores are unfit for anchorage, so that there is little commerce, except in land with Ghilan principally in saffron. The gardens near the town are productive of excellent grapes, and most kinds of European fruits.

Westward, on the Turkish frontier, stands the city of Erivan, of considerable extent, and the capital of Persian Armenia, but the houses are meanly built, like most of those in Persia\*. Provisions are plentiful, and good wine is produced in the neighbourhood. After repeated contests with the Turks, the Persians have remained masters of Erivan since 1635. Not far to the S.W. is the celebrated Armenian monastery of the Three Churches: and the noted mount Ararat, which may be regarded as a kind of frontier between the Turkish and Persian dominions, rises about thirty miles to the south of Erivan.

The province of Aderbijan contains few places of note except Tebriz, or Tauriz, a considerable city, which was however greatly injured by an earthquake toward the beginning of the last century. The bazars, or market places, and other public edifices, are grand and spacious; and it is said that the great square has held thirty thousand men drawn up in order of battle. In the neighbourhood there are quarries of white marble; and there was a mine of gold, now abandoned; but copper is still wrought. Being situated on the west side of the great Caucasian mass of mountains, on which the snow remains for nine months of the year, the climate is extremely cold, but dry and healthy.

The Caspian provinces of Ghilan and Mazendran present their capitals, Rasht and Sari. The former, though the residence of an independent Khan has neither walls nor gates, but is the seat of considerable commerce, and the number of houses may amount to two thousand. The palace of the Khan was composed of several large pavilions, arranged in the form of a square, and communicating with each other by handsome galleries. In the midst was a garden with fountains, and behind was the haram with another garden, the apartments being richly furnished with tapestry, mirrors, and other elegant articles. Rasht is the staple of the silk, which is produced in great abundance in this province. Sari, the residence of the Khans of Mazendran, is of small account, when compared with Aschraff, a favourite residence of Abbas the Great; its splendid palaces and gardens have however become ruinous since the commotions that followed the death of Nadir.

On returning towards the S.W., there appears Bistam, a small city on the north of the great salt desert, rarely visited by travellers; and to the W., Chover or Khavar, with a pass of the same name, through a branch of the Caucasian mountains of Mazendran, which is preferred to the passage through the desert. Kom or Kuma was visited by Chardin, who in travelling from Sava passed a wide plain, with a hill in the middle called the mountain of the Talisman. He represents Kom as a considerable city at the foot of high mountains, and near a river which is lost in the great salt desert. The houses were computed at fifteen thousand; and the

\* Tournefort, ii. 235.

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chief manufactures were white earthen ware, soap, and sword blades. Here are the superb tombs of Sefi I. and Abas II.

Towards the Turkish frontier, one of the largest rivers of Persia, the Ahwaz, or ancient Choaspes, flows into the Tigris; but though the ancient Susa decorated its banks, the modern towns of Kiab and Ahwaz are of small account.

The celebrated Persian gulph has been always more remarkable for the factories of foreigners, than for native establishments. Bander Abassi was a port opposite to the isle of Ormus, or rather on the coast between Ormus and Kishmish, or Kishma, and is now more commonly known by the name of Gombroon. The trade, once considerable, is now greatly declined; and even the Dutch left it, and settled in the isle of Rarek or Garak. The French Indian commerce has failed; and the English staple is Bussora.

In the small isle of Ormus, at the entrance of the Persian gulph, was formerly a celebrated mart of Portuguese trade, established there by consent of the petty king of the country, who also possessed some districts on the opposite coast. But the Portuguese were expelled by Abas the Great, with the assistance of the English, A.D. 1622.

The province of Kerman contains a city of the same name; but some late authors represent Yezd as the capital, though generally supposed to belong to the province of Fars. This city is celebrated for the manufacture of carpets, and stuffs made of camel hair: but the chief manufactures of carpets are in the fertile vale of Segistan, in eastern Persia.

In passing to the eastern division, or kingdom of Candahar, it may be proper to observe that Cabul, the metropolis, is situated within the limits of Hindostan; but Candahar is by D'Anville and others ascribed to Persia, being however a city of small size, and chiefly memorable as the grand passage between these extensive empires.

The dominion of Zemaun Shah comprises a considerable portion of Corasan. The city of Herat stands on a spacious plain intersected with many rivulets, which, with the bridges, villages, and plantations, delight the traveller, fatigued in passing the eastern deserts of Afganistan, or the country of the Afgans\*. It is a smaller city than Candahar, but maintains a respectable trade, and provisions are cheap and abundant. Some European goods pass hither from the gulph of Persia; but coarse strong woollens are manufactured in the adjacent districts. This city was the capital of Corasan, till the first Sefi of Persia transferred this rank to the northern city of Meshid, which contained the tomb of Muza, his supposed ancestor, and one of the twelve great Imams of Persia.

EDIFICES.] In the recent desolation of the country many of the most splendid edifices are become ruinous, and among others the palace of Aref in Mazendran. The late Kerim has however decorated Shiraz with many beautiful buildings. He also improved the roads in the vicinity; but in Persia, which may, as Chardin observes, be called a country of mountains, the roads are not only difficult, but kept in bad repair†.

MANUFACTURES AND COMMERCE.] The manufactures and commerce of this great country may be said to be annihilated, though a few carpets still reach Europe at extravagant prices. Even the trade with the

\* Forster, ii. 113.

† The causey of Abas the Great is a noble monument, extending about 800 B. miles on the S. the Caspian. Hagway, i. 199.

Russians on the Caspian is of small account, consisting of salt and naphtha from Baku, and some silk from Shirvan, called by the Russians Shamakia, but chiefly from Ghilan, where there is a Russian consul at Enfeli or Sinfil. The Persian merchants also bring goods to Balfrush, the largest town in Mazendran, where they trade with those of Russia.

That intelligent but prolix traveller, Chardin, has given an ample view of the Persian manufactures and commerce in the seventeenth century. Embroidery was carried to the greatest perfection, in cloth, silk, and leather. Earthenware was made throughout Persia; but the best at Shiraz, Meshid, Yezd; and particularly beautiful at Zarand, which equalled the Chinese porcelain in fineness and transparency: the fabric was so hard as to produce lasting mortars for grinding various substances \*. That of Yezd, which Chardin places in Kirman, was noted for its lightness. The manufacture of leather and shagreen were also excellent †; and they excelled in braziers, using the tin of Sumatra to line the vessels. The bows of Persia were the most esteemed of all in the east, and the fabrics finely damasked, in a manner which Chardin thinks inimitable in Europe; for, not contented with their own mines of steel, they imported it from India, and wrought it in a particular manner described by our author. Their razors, and other works in steel, were also laudable; and they excelled in cutting precious stones, and dyeing bright and lasting colours. Their cotton and woollen cloths, and those made of goats and camels' hair, with their silks, brocades, and velvets, were superior manufactures. The carpets, as already mentioned, were chiefly from the province of Segistan; and Chardin adds, that in his time they were called Turkey carpets, because they were brought to Europe through that country; and were valued by the number of threads in the inch, being sometimes fourteen or fifteen. The stuffs made of camels' hair were chiefly from Kirman, and those of goats' hair from the mountains of Mazendran, but the cotton cloths principally from Hindostan; and the fabric of broad cloth was unknown and supplied by a kind of felt.

The king himself was engaged in merchandize of silk, brocades, carpets, and jewels; probably with as little advantage to the country as the royal monopolies in Spain. The standard native merchandize was silk of various qualities. To Hindostan were sent tobacco, preserved fruits, especially dates, wines, horses, porcelain, and leather of different colours. To Turkey, tobacco and kitchen utensils: to Russia, manufactured silks. Such were formerly the manufactures and commerce of this extensive country.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate.*—*Face of the Country.*—*Soil and Agriculture.*—*Rivers.*—*Lakes.*  
—*Mountains.*—*Deserts.*—*Forests.*—*Botany.*—*Zoology.*—*Mineralogy.*  
—*Mineral Waters.*—*Natural Curiosities.*—*Isles.*

**CLIMATE.]** PERSIA has been said to be a country of three climates; but even in the south the high mountains contribute to allay the extreme heat. The northern provinces on the Caspian are com-

\* Chardin, iv. 243.

† The proper term is *sagrin*, from the Persian word *Sagri*. Chard. iv. 246.

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paratively cold and moist; the exhalations from that sea being arrested by the mountains to the south of Mazendran. In the centre of the kingdom Chardin observes that the winter begins in November, and continues till March, commonly severe, with ice and snow. From March to May high winds are frequent; but thence to September the air is serene, refreshed by breezes in the night. From September to November the winds again prevail. In the centre and south the air is generally dry, thunder or lightning are uncommon, but hail is often destructive in the spring. Near the Persian gulf the hot wind called Samiel sometimes suffocates the unwary traveller.

**FACE OF THE COUNTRY.]** Persia may be called a country of mountains; and where great plains occur they are generally desert. The most remarkable feature of the country is the want of rivers; in which respect it yields to all the Asiatic regions, save Arabia. Except in the north, and some parts of the western mountains, even trees are uncommon; and the respect paid by the Persian monarchs to planes, and other trees of diffuse shade, is no matter of surprize. Considered in a general scale, one of the most singular features of the country is its division into two parts by deserts and mountains: a circumstance which in all ages, as already explained, has greatly influenced its history and destinies.

**SOIL AND AGRICULTURE.]** The soil may be regarded as unfertile, and even the valleys are sometimes sandy and stony, or of a hard dry clay; both unproductive if not well watered. Hence the chief industry of the Persian farmer is employed in watering his lands. These remarks however must be restricted to the central and southern provinces; for those in the north are sufficiently rich and fertile.

The most common grain of Persia is wheat, which is excellent; but rice is a more universal aliment, and regarded by the Persians as the most delicious of food\*. It is generally produced in the northern or best watered provinces. Barley and millet are also sown. The plough is small, and the ground merely scratched. After which the spade is also used, to form the ground into squares, with ledges or little banks to retain the water. The dung is chiefly human, and that of pigeons mingled with earth, and preserved for two years to abate its heat.

**RIVERS.]** The noble streams of the Euphrates and the Tigris can scarcely at any period be considered as strictly Persian, though Ctesiphon, the capital of the Parthian monarchy, and Seleucia, stood on the latter river. The river of Ahwaz rises in the mountains of Elwend, and pursues a southern course till one branch enters the Tigris above its junction with the Euphrates, while the main stream flows into the estuary of these conjunct rivers. This seems to be the Gyndes of Herodotus, now, according to D'Anville, called the Zeindeh, and by the Turks Karu Sou, or the Black river. The course of this stream, one of the most considerable in Persia, little exceeds 400 B. miles.

From the range of mountains on the N.E. several rivers of short course fall into the Persian gulf, one of the most considerable being the Rud or Divrud, which joins the mouth of that gulf. The rivers of Mekran are of more considerable course, as the Krenk and Mekshid, which, conjoined, form the river of Mend, so called from a town by which it passes. The Haur and the Araba are of small consequence, except that the latter serves as a nominal boundary towards Hindostan.

\* Chardin, iv. 222.

In the N.E. the large river of Gihon, better styled Amu, to avoid the confused similarity with another large river, the Sihon, rather belongs to Independent Tatar, with its numerous tributary streams; except the Margus or Margab, called also the Mourgab, which, however, in the opinion of D'Anville and La Rochette, is rather lost in the sands. To the W., the river of Tedjen or Tedyen, the ancient Ochus, flows into the Caspian; which also receives many small streams from the mountains of Mazendran. D'Anville assigns a very considerable course to the river of Kizil Ozen, or Seefid Rud, which he derives from the mountain of Elwend, not far to the N. of Hamadan; so that by a very winding course to the Caspian, its length doubles what is assigned in more recent maps. This river is the Mardus of antiquity, and must be the Swidura of Gmelin, rising on the confines of Turkey, and falling into the sea below Langorod\*. It produces numerous pike, carp, and other kinds of fish, esteemed by the Persians: Gmelin says that it abounds in sturgeons.

Farther to the N. the large river Aras, the ancient Araxes, falls into the Kur or Cyrus, both rising in the Caucasian mountains, and pursuing a course of extreme rapidity. The Kur abounds with sturgeon and other large fish; and at its mouth are several isles, liable to be overflowed in the spring†.

The central rivers of Persia remain to be mentioned, most of which are soon lost in sandy deserts, but deserve attention from their historical celebrity. The Zenderud rises in the western chain of Elwend, and passes by Ispahan, beyond which capital its course is soon lost in the sand: this river seems to have been the second Gyndes of the ancients.

But the most important river in this quarter is that which passes between Shiraz and Istakar, or the celebrated ruins of Persepolis, called the Bundamir, and supposed to be an ancient Araxes. This celebrated river flows into a salt lake called Baktegan, and which also receives a considerable stream from the N.E. called the Kuren‡. Between these two rivers a branch of the mountains of Elwend extends S.E., on the western side of which stand the ruins of Persepolis.

The largest and most remarkable inland river is the Himmend of the province of Segistan, which rises from two widely separated sources, one in the mountains of Gaur, a part of the Hindoo Koh, and the other far to the S. from the mountains of Gebelabad. These streams join not far to the E. of Bost, whence the river pursues a westerly course, and, according to the account of Otter§, divides into many branches, which are lost in the central deserts of Persia. Our geographers, on the contrary, suppose that the Himmend passes by Zareng into the sea of Zereh.

**LAKES.]** Among the lakes of Persia, the most considerable beyond all comparison is the Aria Palus of antiquity. This large lake is in the western part of the province of Segistan, and is called in the French maps the lake of Zeré, from a village of that name near its western extremity; but in the English the sea of Durra, from another village situated on a river at the distance of twenty miles from the lake: the

\* *Découvertes Russes*, li. 373. See also Hanway, i. 179, and 275, where this river is called Sefietrud. There is a bar at the entrance, but a considerable depth within.

† Gmelin, ib. 236.

‡ This river La Rochette, in his elegant map of the marches of Alexander, supposes was the Medus, and perhaps a Mardus of the ancients.

§ *Voyage en Turquie et en Perse*. Paris, 1748, 2 vols. 12mo. tome i. 217.

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\* Chardin, ii.

† See the Pers

‡ D'Anville, A



length is thirty leagues, by a day's journey in breadth; and the water is fresh and full of fish.

The salt lake of Baktegan, about fifty miles E. of Shiraz, receives, as already mentioned, the rivers of Kuren and Fundamir. It is represented in the maps as about forty B. miles in length, and the breadth about ten; but the imperfection of Persian geography affords no farther information.

Far to the N.W. appears the large lake of Urmia, so called from a town near its southern extremity. This lake is represented as about fifty B. miles in length, by about half the breadth, and is said to be considerably impregnated with salt, and the neighbouring mountains were remarkable as the seats of the assassins. The lake of Erivan, about 120 B. miles to the N., is about twenty-five leagues in circumference, with a small isle in the middle; it abounds in carp and trout; and is the Lych-nites of Ptolemy\*.

**MOUNTAINS.]** The precise and exact knowledge of mountains, particularly of the direction and extent of the chief ranges, which, with their side branches, often resemble the leading bone of a fish, having been one of the most recent improvements even in European geography; it cannot be expected that the Oriental should aspire to much exactness in this topic, and in the present instance early travellers are unanimous in representing Persia as a plain country, so blind were they to the most striking objects around them†

The first object, even in a short account of the Persian mountains, must be to trace the direction of the chief chains. It is clear, from the accurate description of Gmelin, that the Caucasian ridge extends to the west of Ghilan and south of Mazendran, till it expire in Corasan, on the S.E. of the Caspian sea.

The southernmost chain, of great height, is described by Mr. Franklin as running parallel with the Persian gulf, N.W. and S.E., at about the distance of 50 B. miles.

A third range of mountains, of very great height, seems to continue in the same direction with this last, to the S. of the lake of Urmia, where it is connected with the Caucasian ridge. This is the grandest range of mountains in Persia.

A parallel ridge on the W., called by the Turks Aiagha Tag, is supposed to be the Zagros of the ancients, which separated Assyria from Media‡. This western chain seems to extend to the lake of Van, for mount Ararat is represented as standing solitary in the midst of a wide plain, and from proximity might rather be classed with the range of Caucasus.

Hetzardara, or the thousand mountains, form a branch on the north of Fars; and one part of it, which gives rise to the river of Ispahan, is called Koh Zerdeh, or the Yellow mountain.

The province of Fars is represented by some writers as separated from Kerman by mountains; but the real barrier is a desert of sand, extending from the S. of the lake of Baktegan to the proximity of Zarang, and connected with the great desert which divides Persia into two parts. Nor are there any mountains of consequence in the east of Fars. A low range, called Meder by D'Anville, passes N.E. through the heart of Kerman; while that country is divided from Mekran by a range in the

\* Chardin, ii. 222. Tournef. ii. 256.

† See the Persia among the Elzevir Republics, 1633, 12mo.

‡ D'Anville, Anc. Geog. ii. 463.



same direction, called by D'Anville Kofez. Some other nameless ranges cross Mekran in the same direction, that nearest Hindostan being called by Rochette the Lakhee mountains.

Farther to the N. the mountains of Wulli extend from the neighbourhood of Shatzan across to the lake of Vachind, and may thus be considered as forming one range with that on the N. of Mekran, called Gebelabad by La Rochette. This range however expires in the great desert to the S. of Zarang.

In the E. of Segistan is a ridge N. and S. called Soliman Koh, or the mountains of Soliman. It is probable that there are mountains of considerable height on the N. and W. of the sea of Zurra; one of which is called Berihék and another Ouk, the former being noted for a fire temple, the resort of the Guebers.

**DESERTS.]** The deserts must not be passed in complete silence, though few words may suffice. On the east of Tigris, lat. 33°, a considerable desert commences, which is pervaded by the river of Ashwaz, and extends to the N. of Skuster. This desert may be about 140 B. miles in length, E. to W., and the breadth about 80. It is now chiefly possessed by the wandering tribe of Arabs called Beni Kiab, a people who, like the desert, are not a little obscure\*.

The great saline desert extends from the neighbourhood of Kom to that of the sea of Zurra, in a line from E. to W. of about 400 B. miles: the breadth from N. to S. may be 250: but in the latter quarter it may be said to join with the great desert of Kerman by the Nauben Dejian, which extends about 350 miles. These two extensive deserts may thus be considered as stretching N.W. and S.E. for a space of about 700 miles, by a medial breadth of about 200 (even not including in the length other 200 miles of the desert of Mekran); thus intersecting this wide empire into two nearly equal portions, as before explained. This vast extent is impregnated with nitre and other salts, which taint the neighbouring lakes and rivers; but its natural history has not been investigated with the precision of modern knowledge. In the S. of Mekran, and towards the Indus, are other deserts of great extent.

A third great desert, that of Karakum, or the Black Sand, forms the northern boundary of Corasan and modern Persia; but the description more properly belongs to Tatary.

**FORESTS.]** The Persian forests are unhappily restricted to a few spots in Corasan, the mountains of Mazendran and Ghilan, and those towards Kurdistán. But timber is chiefly supplied by Mazendran, which thence receives a name signifying the land of axes.

**BOTANY.]** An accurate account of the indigenous vegetables of Persia yet remains a desideratum in the science of botany; the productions of the eastern and south-eastern provinces are almost wholly unknown to us, and the slight acquaintance that we have with those on the shores of the Caspian and the frontiers of Russia is for the most part derived from the short and imperfect notices that occur in the travels of Pallas and Gmelin in the neighbourhood of the Caspian.

A considerable part of the Persian territory, especially on the side of Great Tatary, appears to be occupied by salt deserts: these are for the most part destitute of trees, and support hardly any plants, except such of the saline succulent kind as are also found on the sea-shore.

Of the high mountains, as far as they have been examined, we are

\* See Niebuhr; but this tribe seems rather to the S. of the desert.

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only informed in general that their vegetable inhabitants are for the most part the same as those observed on the Alps of Switzerland and Italy.

The plants of the hills and cultivated parts adjoining the Caspian sea are better known to us, and from the few whose names we are already in possession of, it is easy and reasonable to infer the presence of many more that are usually observed to accompany them. On the mountainous ridges are found the cypress, the cedar, and several other kinds of pines, while the lower hills and scars of rock are shaded and adorned with lime trees, oaks, acacias, and chestnuts; the sumach, whose astringent wood is so essential to the arts of dyeing and tanning, grows here in vast abundance; and the manna ash-tree is scarcely less common. The most esteemed of the cultivated fruits of Europe are truly indigenous in Persia, and have probably hence been diffused over the whole west. These are the fig, the pomegranate, the mulberry, the almond, peach, and apricot. Orange trees also of an enormous size, and apparently wild, are met with in the sheltered parts of the mountains; and the deep warm sand on the shore of the Caspian is peculiarly favourable to the culture of the citron and the liquorice. The vine grows here in great luxuriance; and farther to the south both cotton and sugar are articles of common cultivation. Poplars of unusual size and beauty, and the weeping willow, border the course of the streams, and the marshy tracts abound with a peculiar kind of rush that forms the material of the fine Persian matting. The ornamental shrubs and herbaceous plants of this country are but little known; four of them however, from their abundance and beauty, give an air of elegance to the country, especially in the eyes of an European, superior to that of any other region; these are the jasmine and the blue and scarlet anemone in the thickets, and the tulip and ranunculus in the pastures.

**ZOOLOGY.]** According to Chardin, the Persian horses are the most beautiful even in the east; but in speed they yield to the Arabian, which are less distinguished by elegance of form. The Persian steeds are rather taller than the saddle horses in England; the head small, the legs delicate, and the body well proportioned; of a mild disposition, very laborious, lively, and swift. Tatarian horses are also used, of lower stature and not so well formed as the Persian, but more capable of enduring fatigue\*. Mules are also in considerable request; and the ass resembles the European, but a breed of this animal is brought from Arabia, which is excellent, the hair being smooth, the head high, while it moves with spirit and agility. The camel is also common, but not admitted into the province of Mazendran, where they eagerly eat the leaves of box, though to them a rank poison. The Persian cattle resemble the European, except towards Hindostan, where they are marked by the hunch on the shoulders. Swine are scarce, save in the N. W. provinces. Of the large tailed sheep that appendage sometimes weighs more than thirty pounds, enlarging at the bottom in the form of a heart. The flocks are most numerous in the northern provinces of Erivan, or the Persian part of Armenia and Balk. The few forests contain abundance of deer and antelopes; while the mountains present wild goats. Hares are common in the numerous wastes. The ferocious animals are chiefly concealed in the forests, as the bear and boar, the lion in the western parts, with the leopard, and, according to some accounts, the small or common tiger. Seals occur on the rocks of the Caspian. The wild ass is found in the central deserts; but the hyena and chakal belong to the southern provinces. The seas abound with fish

\* Chardin, iv. 72.

of various descriptions; the Caspian displays sturgeon and some kindred species, with a fat and delicious kind of carp. Pigeons are particularly numerous; and the partridges are uncommonly large and excellent. The boobul, or oriental nightingale, enlivens the spring with his varied song. The Persians have been long accustomed to tame beasts of prey, so as to hunt with leopards, panthers, and ounces\*.

**MINERALOGY.]** The mineralogy of this extensive country seems neither various nor important, though the numerous mountains probably abound with unexplored treasures. The lead mines of Kerman and Yezd produce the usual mixture of silver. In the northern provinces there are many mines of iron, but the metal is harsh and brittle. Copper is chiefly found in the mountains of Mazendran and near Casbin; but is brittle, and commonly mingled by the melters with a twentieth part of the Japanese or Swedish.

The only precious stone yet discovered seems to be the turkoise, which has indeed almost ceased to be regarded as such, being only bone or ivory tinged with copper. There are two mines of this substance, one at Nishapour in Corasan, and another about four days journey to the S. of the Caspian, in the mountain called Feruzkoh. Pearls abound, as is well known, in the Persian gulf, especially near the isles of Bahrin on the Arabian side. Some will weigh fifty grains; but those are esteemed large which weigh from ten to twelve grains.

Chardin adds, that sulphur and nitre are found in the mountain of Demavend, which he places on the south of Hyrcania or Mazendran. Sometimes whole deserts are covered with sulphur, and others with salt, which near Casbin is remarkably pure. Rock salt is found near Kpahan; and in the dry climate of Kerman it is even employed in building.

**MEDICAL WATERS.]** Medical waters of various descriptions abound in this mountainous country; but they are generally alike neglected by the physicians and the people.

**NATURAL CURIOSITIES.]** Among the chief natural curiosities must be named the fountains of naphtha, or pure rock oil, in the neighbourhood of Baku, on the western coast of the Caspian, particularly in the adjoining promontory of Ashberon. The land is dry and rocky, and there are several small ancient temples, in one of which, near the altar, a large hollow cane is fixed in the ground, and from the end issues a blue flame, seemingly more pure and gentle than that produced by ardent spirits†. From an horizontal gap in an adjoining rock there also issues a similar flame.

"The earth round this place for above two miles has this surprising property, that, by taking up two or three inches of the surface, and applying a live coal, the part which is so uncovered immediately takes fire, almost before the coal touches the earth: the flame makes the soil hot, but does not consume it, nor affect what is near it with any degree of heat.

"If a cane or tube, even of paper, be set about two inches in the ground, confined and close with the earth below, and the top of it touched with a live coal and blown upon, immediately a flame issues, without hurting either the cane or paper, provided the edges be covered with clay; and this method they use for light in their houses, which have only the earth for the floor: three or four of these lighted canes will boil water in a pot, and thus they dress their victuals. The flame may be extinguished in the same manner as that of spirits of

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"Lime is the flame covered to receive three days the naphtha spring

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"The people drawing it off from or the heavier part. It is unpleasant to the Persians, and to boil their victuals find it burns best in great abundance, distance from their any accident by fire

"There is also much thinner coal. The Russians drink an external application of water, which being impregnated with this warm water is the justly celebrated in the end of the little to the account mixed with sand, wells in an adjoining mon product to the rubles†.

**ISLES.]** The few most remarkable are, and, towards the coast expelled in 1765, of nature; and far less the coast of the U

\* Chardin, iv. 94.

† Hanway, i. 263.

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\* Hanway, i.  
† Dec. des R.

wine. The ground is dry and stony, and the more stony any particular part is, the stronger and clearer is the flame; it smells sulphureous, like naphtha, but not very offensive.

"Lime is burnt to great perfection by means of this phenomenon; the flame communicating itself to any distance where the earth is uncovered to receive it. The stones must be laid on one another, and in three days the lime is completed. Near this place brimstone is dug, and naphtha springs are found.

"The chief place for the black or dark grey naphtha is the small island Wetoy, now uninhabited, except at such times as they take naphtha from thence. The Persians load it in bulk in their wretched vessels, so that sometimes the sea is covered with it for leagues together. When the weather is thick and hazy the springs boil up the higher; and the naphtha often takes fire on the surface of the earth, and runs in a flame into the sea in great quantities, to a distance almost incredible. In clear weather the springs do not boil up above two or three feet. In boiling over, this oily substance takes so strong a consistency, as by degrees almost to close the mouth of the spring; sometimes it is quite closed, and forms hillocks that look as black as pitch: but the spring, which is resisted in one place, breaks out in another. Some of the springs which have not been long opened form a mouth of eight or ten feet diameter.

"The people carry the naphtha by troughs into pits or reservoirs, drawing it off from one to another, leaving in the first reservoir the water, or the heavier part, with which it is mixed when it issues from the spring. It is unpleasant to the smell, and used mostly amongst the poorer sort of the Persians, and other neighbouring people, as we use oil in lamps, or to boil their victuals, but it communicates a disagreeable taste. They find it burns best with a small mixture of ashes, and as they procure it in great abundance, every family is well supplied. They keep it at a small distance from their houses in earthen vessels, under ground, to prevent any accident by fire, of which it is extremely susceptible.

"There is also a white naphtha on the peninsula of Apcheron, of a much thinner consistency; but this is found only in small quantities. The Russians drink it both as a cordial and a medicine, and also use it as an external application. Not far from hence are also springs of hot water, which boil up in the same manner as the naphtha, and very thick, being impregnated with a blue clay; but it soon clarifies. Bathing in this warm water is found to strengthen and procure a good appetite\*."

The justly celebrated Kämpfer had visited these remarkable springs in the end of the seventeenth century †; and Gmelin, 1773, has added little to the account of Hanway, except that the soil is a coarse marle, mixed with sand, and effervescing with acids. There are many other wells in an adjoining peninsula; and the revenue arising from this uncommon product to the khan of Baku was computed at forty thousand rubles ‡.

ISLES.] The few Persian isles in the southern gulf, among which the most remarkable are Ormuz, once famous, now abandoned; Kishma; and, towards the other extremity, Karek, from which the Dutch were expelled in 1765, do not merit a particular description in a work of this nature; and far less those in the Caspian sea, the chief of which are on the coast of the Uzbeks.

\* Hanway, i. 263, &c.

‡ Dec. des Russes, ii. 213.

† See his Amoen. Exot.

## INDEPENDENT TATARY.\*

## CHAPTER I.

## GENERAL OBSERVATIONS.

*Name.—Chief Divisions.—Progressive Geography.—Connection with Little Bucharía, and Review of the ancient and modern Geography of that Country.*

THE descriptions already given in this volume of Asiatic Russia and the Chinese empire comprise the far greater part of what geographers denominated Tartary, by a vague term applied to a country exceeding all Europe in extent, and possessed by various and distinct nations and races of men.

By repeated victories over the Eluts and Kalmuks of Mongolia, the Chinese dominion has been extended to the mountains of Belur, thus including Little Bucharía; while in the E. Mandshuria remained subject to its sovereigns, who had become emperors of China.

**NAME.]** The title of Independent Tatary becomes however unexceptionable, when confined to the bounds of the present description, for the Uzbeks and Kirguses are of undoubted Tatar origin; and their country must still be regarded as independent of the great neighbouring powers, China, Russia, and Persia.

**EXTENT.]** The extent of territory possessed by these tribes may be measured from the Caspian sea to the mountains of Belur, a space of not less than 870 B. miles. From the mountains of Gaur in the south to the Russian boundaries on the north of the desert of Issim, may be near 1500 B. miles; but of this length a great part is desert.

**DIVISIONS.]** The chief divisions are the wide steppes or barren plains in the N., held by three hordes of Kirguses, the Great, Middle, and Lesser; with some small Tatañic tribes near the sea of Aral. This portion was anciently called Western Turkistan; the capital being Taraz, on a stream which flows into the Sirr, or Sihon, not far above Otrar, and which was also sometimes denominated Turkistan from the name of the country.

To the S. of the mountains of Argun the land begins to fertilize along the course of the Sirr, Sirt, or Sihon, the Iaxartes of the ancients, also called the river of Shash from the chief territory; and on the banks of its tributary streams, which devolve from the Argun on the N. and the Ak Tau or White mountain on the S., while the river itself springs from the mountains of Belur. Ilak and Shash, the most northern provinces on the Sihon, are followed by Fergana, and a district called Orushna, round a town of the same name. Divided from these provinces by deserts and mountains, the kingdom of Kharizm, formerly so powerful as to oppose the Great Zingis, has gradually yielded to the encroaching desert.

To the S. of the range of the Ak Tau appears the fertile region of Sogd, the ancient Sogdiana, with its capital Samarcand. On the S. the provinces of Balk, Kilan, Tokarestan, and Gaur, terminate the bounds of Independent Tatary, here separated by deserts on the W. from the Persian province of Corasan. In general, Kharizm on the W. is not

\* This is the indigenal, oriental, and proper orthography.

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MODERN GEOGR of the present state c man empire in exten tions on the modern science, remains in unavoidable connect Imaus, and in later and Little Bucharía, ance with the latter c and briefly included

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TOWNS.] The ch followed towards the duz, and by the Turk or Camil, with its fur province, for some a

HISTORY.] Little recently conquered t country of the Seres whose death it beca sidered as a part of vices belonged to Turfan, were the and race, who spread diff afterwards settled in of China, Kiang Lon golia, in order to ave of the empire, by th pletely vanquished the



considered as a part of Great Bucharía; but this last appellation must be regarded as embracing the whole extent from the mountains of Argun and sources of the river Ilak, to the confines of Hindostan.

PROGRESSIVE GEOGRAPHY.] In ancient periods Western Turkistán and the north of the Caspian, were the seats of the Massagetæ; to the S. of whom were the Scythians, on this side of the Imaus or Belur Tag.

MODERN GEOGRAPHY.] As few materials will arise for a description of the present state of Independent Tatary, a country exceeding the German empire in extent, it may not be uninteresting to offer some observations on the modern geography of this country, which, to the disgrace of science, remains in a wretched state of imperfection. The natural and unavoidable connection between the ancient Scythias on both sides of the Imaus, and in later times between western and eastern Turkistán, Great and Little Bucharía, will authorize and demand some previous acquaintance with the latter country, though recently subjugated by the Chinese, and briefly included in the description of that empire.

The north-western province of China, called Shen-si, presents a remarkable district, narrow, but of considerable length, extending like a promontory between the great desert on the N.E. and the Eluts of Koko Nor on the S.W. The great wall is here low, and rudely constructed of turf or hardened clay. This tract formerly belonged to the kingdom of Tangut, being a modern addition to China.

Beyond these parts, which are the first approached by the caravans, several rivers, lakes, towns, and stations, are laid down in the maps by the jesuits, as the river Etziné, with the towns of Ouey-yuen and Chao-maing; and the lakes Sopou and Souhouc. To the W. runs another considerable river, the Polonkir, near which is the city of Sha-cheou, where the river runs into a lake called Hara or Kara Nor, the Black lake.

With the southern boundaries and provinces of Little Bucharía we are almost wholly unacquainted; but the western and northern parts are known with more accuracy from various accounts, and from the maps of D'Anville and Isenief. To avoid the difficulties of sandy deserts, rendered almost impassable by broken rocks, the caravans proceed to Hami by a circuit to the north; where, at the bottom of the mountains of Alak, which afford some protection from the piercing cold, stand the cities and towns of Little Bucharía, in all its features one of the most singular regions in the world.

TOWNS.] The chief towns, by all accounts, are Cashgar and Yarcand, followed towards the N.E. by Axu or Akfu; Chialish, also called Yuldúz, and by the Turks Karashar, or the Black city; and Turfan. Hami or Camil, with its surrounding villages, is rather considered as a detached province, for some ages under the protection of China.

HISTORY.] Little Bucharía was subject to the Kalmuks, who were recently conquered by the Chinese. In more ancient times it was the country of the Seres; but was little known till the time of Zingis, after whose death it became the portion of his son Zagathai. It was considered as a part of Mogulistán, or Mongolia; and the northern provinces belonged to the country of Geté, in which, to the N.E. of Turfan, were the ancient habitations of the Eygurs or Ugurs, a Finnish race, who spread dismay throughout Europe in the tenth century, and afterwards settled in Hungary. The late wise and benevolent emperor of China, Kiang Long, or Chen Lung, made repeated visits to Mongolia, in order to awe the Kalmuks, the most dangerous neighbours of the empire, by the display of superior power. In 1759 he completely vanquished these people, and thus annexed a vast territory to his dominions.



dominions. Independently of the regions to the north, the extent of Little Bucharia, as it is absurdly named, from the confines of Hami to the mountains of Belur, is more than 1000 B. miles: and the breadth, from the mountains of Tibet to those of Alak, more than 500.

RELIGION.] The prevailing religion is the Mahometan, for the Kalmuk conquerors, though they retained their idolatry, were tolerant.

The population cannot be extensive, and is supposed chiefly to consist of original Bucharians, who are described as of a swarthy complexion, though some be very fair and of elegant forms. They are said to be polite and benevolent, and their language is probably that called the Zagathian, which is the same with the Turkish, that speech having supplanted their native tongue; for, that the chief population is original seems to be allowed, though there be a great mixture of Tatars, or Turcomans, and a few Kalmuks. The dress of the men does not reach below the calf of the leg, with girdles like the Polish. The female raiment is similar, with long ear-rings, like those of Tibet: the hair is also worn in very long tresses, decorated with ribbons. They tinge their nails with henna. Both sexes wear trowsers, with light boots of Russia leather. The head-dress resembles the Turkish. The houses are generally of stone, decorated with some Chinese articles. They are cleanly in their food, which often consists of minced meat; and, like the Russians, they preserve their victuals frozen for a considerable time. Tea is the general drink. The wives are purchased; and the ceremonies of marriage, &c. differ little from those of other Mahometans, the mullahs or priests having great influence. They have small copper coins; but weigh gold and silver like the Chinese, with whom they maintained a considerable commerce before the Kalmuk invasion, and which is now probably more productive than ever by their union under the same sovereign. They are not warlike, but use the lance, sabre, and bow, while the rich have coats of mail. The country is very productive of many kinds of fruits, and particularly wine. They are said to have many mines of gold and silver, but neither the natives nor Kalmuks had sufficient skill to work them: on the melting of the snows abundance of gold is found in the torrents, which they carry to China, and even to Tobolsk in Siberia. Precious stones, and even diamonds, are also found; and one of the products is musk, probably from the southern mountains near Tibet, in which last country the animal abounds. In contradiction to the usual course of nature, the southern part bordering on the vast Alps of Tibet is colder than the northern, which is protected by the inferior ridge of Alak. As the dress is chiefly cotton, it is probable that the plant abounds in the country.

Such are the chief particularities concerning this interesting country to be collected from the accounts above quoted. Dr. Pallas, in his travels in Russia, gives some idea of Bucharian commerce, in describing the city of Orenburg\*. But as he joins the Bucharians with the people of Khiva, he probably implies Greater Bucharia. He seems to mention raw silk as a product of the country, as well as lamb-skins of a remarkably fine kind, and the hair of camels.

\* Dec. Russ. iii. 293.

*Kirgises. — Stepp Trade. — History of Bucharia. — Manners and Customs. — Rivers. —*

#### KIRGUSES.]

undoubted Tatar STEPP OF ISSIK Kirgises from Si name; and there the sands, or fall bitter\*. Even the five plain must no vegetation; and in panse, as well as in which last consists with the appearance

On the west of though the great sought the protection so called from the been here classed though quite unknown some tribes become considered as faithless defended by mountains repeated contests Little Hords have but this subjection fortify themselves mated at thirty contain sixty thousand this wide region exceed half a million

MANNERS, &c. wards the west. described at confound kind of felt; the The Great Hord is located near the mountains called the A from the borders Stepp of Issik. Hord, when Pallas was, his prince, who

\* Dec. Russ. iv. 4  
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## CHAPTER II.

## DESCRIPTION OF INDEPENDENT TATARY.

*Kirguses. — Stepp of Issim. — Hords. — Number. — Manners. — Dress. — Trade. — History. — Khari:m. — Name. — Khiva. — Trade. — Great Bucharia. — Nephthalites. — Extent and Boundaries. — History. — Religion. — Manners and Customs. — Provinces. — Cities. — Manufactures. — Climate. — Rivers. — Lakes. — Mountains. — Mineralogy. — Character of the People.*

**KIRGUSES.]** ABOUT one-half of Independent Tatar is occupied by the Kirguses in the north, a people of undoubted Tataric origin, and the Uzbeks in the south.

**STEPP OF ISSIM.]** The great stepp, or desert of Issim, divides these Kirguses from Siberia. This stepp is intersected by a river of the same name; and there are other streams which either join that river, are lost in the sands, or fall into extensive lakes, for the most part either saline or bitter\*. Even the soil is impregnated with salt and nitre. This extensive plain must not however be regarded as a mere desert, destitute of all vegetation; and it is said that many ancient tombs occur in its wide expanse, as well as in the Barabian stepp, between the Irtysh and the Orb, which last consists of a tolerable soil, and presents several forests of birch, with the appearance of having been formerly a prodigious saline marsh.

On the west of the Kirguses there still remain some tribes of Kalmuks, though the greater part migrated from the Volga in 1770, when they sought the protection of the Chinese. The Kirguses are supposed to be so called from the founder of their hord; and have from time immemorial been here classed under three divisions, of Great, Middle, and Lesser, though quite unknown to Europe till the Russian conquest of Siberia, some tribes becoming subject to that empire in 1606†. They are considered as faithless, pusillanimous, yet restless; but the Great Hord, defended by mountains on the S. and E., asserted their independence in repeated contests with the Kalmuks of Soongaria. The Middle and Little Hords have acknowledged the Russian sovereignty since 1731; but this subjection is merely nominal, for the Russians are obliged to fortify themselves against these allies. These two hords are each estimated at thirty thousand families; and supposing the Great Hord to contain sixty thousand, and each family six persons, the population of this wide region must amount to 720,000; but it probably does not exceed half a million.

**MANNERS, &c.]** The Kirguses have gradually moved from the east towards the west. Their manners, common to the Tatars, have been described at considerable length by Pallas‡. Their tents are of a kind of felt; they drink kumiss, made of acidulated mare's milk. The Great Hord is considered as the source of the two others. Being seated near the mountains of Alak, also called Al-tau, this hord has been called the Alatanian Kirguses§. They lead a wandering life, from the borders of the Upper Sirr, or Syrt, near Tashkend, to the stepp of Issim. Each hord has its particular Khan; but the Middle Hord, when Pallas approached this country, was contented with a Sultan, or prince, who seemed to acknowledge the Khan of the Lesser

\* Dec. Russ. iv. 456. Pallas calls it the stepp of Hett.

† Dec. Russ. iii. 675.

‡ Tooke, ii. 70.

§ Ib. 670.

Hord: and in 1777 this Khan of the Lesser Hord, whose election had been confirmed by Russia, was called Nur Hali, a sensible and equitable prince. Their features are Tataric, with the flat nose and small eyes; but not oblique, like those of the Monguls and Chinese. They have horses, camels, cattle, sheep, and goats. It was asserted that some individuals in the Middle Hord had 10,000 horses, 300 camels, 3 or 4,000 cattle, 20,000 sheep, and more than 2000 goats: while in the Lesser Hord were proprietors of 5000 horses, and a proportional number of the other animals. Their dromedaries furnished a considerable quantity of woolly hair, which was sold to the Russians and Bucharians, being annually clipped like that of sheep. Their chief food is mutton, of the large tailed sort; and so exquisite is the lamb, that it is sent from Orenburg to Petersburg for the tables of the palace. The lamb-skins are the most celebrated after those of Bucharja, being damasked as it were by clothing the little animal in coarse linen. But the wool of the sheep is coarse, and only used in domestic consumption for felts and thick cloths. The steppes supply them with objects of the chase, wolves, foxes, badgers, antelopes, ermines, weazles, marmots, &c. In the southern and eastern mountains are found wild sheep, the ox of Tibet, which seems to delight in snowy alps; with chamois, chacals, tigers, and wild asses\*.

As the Kirgusians regard each other as brethren, they are obliged to employ slaves, being captives whom they take in their incursions. Their dress is the common Tataric, with large trowsers and pointed boots. The ladies ornament their heads with the necks of herons, disposed like horns. They appear to be Mahometans, though rather of a relaxed creed.

TRADE.] The Kirgusians carry on some trade with Russia. The chief traffic, which is wholly by exchange, is at Orenburg, but the Middle Hord proceed to Omsk. Sheep, to the amount of 150,000, are annually brought to Orenburg; with horses, cattle, lamb-skins, camels' wool, and camlets; sometimes they offer slaves, Persians or Turcomans. In return they take manufactured articles, chiefly clothes and furniture. From Bucharja, Khiva, and Tashkund, they receive arms and coats of mail, which Russia refuses them, in return for camels and cattle. They are extremely fond of the Kalmuk women, who long retain their form and charms; and often marry them if they will adopt the Mahometan religion. There is an annual festival in honour of the dead. About the beginning of the seventeenth century this people, who were formerly Shamanians, became children of circumcision, by the exertions of the priests of Turkistan; but Pallas, in 1769, found them addicted to sorceries and other idle superstitions.

HISTORY.] Even this barren region, now inhabited by the Kirguses, has been the scene of considerable events; and it is not improbable that its numerous deserts and plains may formerly have been more fertile, at least in pasturage. The gradual desiccation, observed in the southern steppes of Siberia, may warrant the conclusion that the hills and plains, on the north of the Caspian and Aral, anciently presented more numerous streams and rich verdure. However this be, these regions have been held by successive nations of high repute, from the Massagetæ of early times to the Turks. These last imparted the name of Turkistan, having migrated from their habitations near the mountains of Bogdo, adjoining to those of Altai. In the sixth century these Turks had already spread

to the Caspian original seats. Nephthalites of As the Turks held by the K this centre of the destinies of Turkistan from by the Turks may be considered Europeans till deserts, and mention till the forced by their peculiar unknown race, Asia to Europe of their settlers But the Turks the fate of their to have been Gothic tribes, of the name of the most beautiful of Europe.

KHARIZM.] briefly to describe Gihon or Amu deserts, the chief country is above Zingis was a part of Great At present the circuit of which are five walled cities other\*. "The power, except The Kievinski them in cunning the Kirguses live Their only trade furs, and hides Tatars, who of place itself prodigality, and a ture†." The a rising ground and much higher and a broad desert and commands dustry of the iron low, mostly built

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to the Caspian ; while the Eygurs seem to have succeeded them in their original seats. They soon after subdued the people of Sogdiana, and the Nephthalites of Great Bucharía, called in that ignorant age White Huns. As the Turks founded their first western settlements in the regions now held by the Kirguses, they thence received the name of Turkistán. From this centre of their power issued those Turkish armies which have changed the destinies of so many nations. Little Bucharía was called Eastern Turkistán from a similar cause ; but appears to have been first subdued by the Turks of Cathay on the N.W. of China. The Turks and Huns may be considered as one and the same Tataric race, totally unknown to Europeans till the appearance of the latter, who first passed the steppes, deserts, and mountains which had concealed them from classical observation till the fourth century. The Huns, who appeared about A.D. 375, by their peculiar features impressed the writers of the time as a new and unknown race, having seemingly passed in one course of depredation from Asia to Europe ; while the Gothic and Slavonic nations had left many of their settlements vacant, in their progress into the Roman empire. But the Turks, though originally the same people, perhaps warned by the fate of their brethren, made a slow and gradual progress ; and appear to have been mingled by marriages and conquests with the Slavonic and Gothic tribes, on the N. and E. of the Caspian. Such was the origin of the name of Turkistán, from which the Turks spread desolation over the most beautiful countries of the east, and even threatened the liberties of Europe.

**KHARIZM.]** Before proceeding to Great Bucharía, it may be proper briefly to describe the country of Kharizm, which extends from the Gihon or Amu to the Caspian sea, bounded on the N. and S. by wide deserts, the chief town being now Khiva, but anciently Urghez. This country is about 350 B. miles in length and breadth, and in the time of Zingis was a powerful kingdom, but at that time included Corasan, and a part of Great Bucharía.

At present this state is almost restricted to the district of Khiva, the circuit of which may be performed on horseback in three days : but there are five walled cities, or rather towns, within half a day's journey of each other \*. "The khan is absolute, and entirely independent of any other power, except the Mulla Bashí, or high priest, by whom he is controlled. The Kieviníski Tatars differ very little from the Kirguses ; but surpass them in cunning and treachery. Their manners are the same, only that the Kirguses live in tents, whilst the others inhabit cities and villages. Their only trade is with Bokhara and Persia, whither they carry cattle, furs, and hides, all which they have from the Kirguses and Turkoman Tatars, who often prove very troublesome neighbours to them. The place itself produces little more than cotton, lamb furs of a very mean quality, and a small quantity of raw silk, some of which they manufacture †." The same author informs us that the town of Khiva stands on a rising ground, with three gates, and a strong wall of earth very thick, and much higher than the houses : there are turrets at small distances, and a broad deep ditch full of water. It occupies a considerable space, and commands a pleasant prospect of the adjacent plains, which the industry of the inhabitants has rendered very fertile ; but the houses are low, mostly built with mud, the roofs flat, and covered with earth.

Khiva is said to stand at the distance of seventeen days from the Caspian

\* Planway, i. 241.

† Ibid.

sea, and from Orenburg thirty-three, computing the day's journey forty versts \*. In 1739 the khan of Khiva assembled an army of 20,000, to oppose Nadir; but the city surrendered at discretion.

Pallas informs us that the people of Khiva bring to Orenburg considerable quantities of raw cotton †. But the coasts of the Caspian are held by some remains of Turkomans in the north, and by Uzbeks in the south. The bay of Balkan is visited by Russian vessels: the isles yield rice and cotton, and one of them, Naphichonia, a considerable quantity of naphtha, the bed seeming thus to pass the sea from Baku in a S.E. direction; but they are inhabited by Turkoman pirates. A more considerable trade is maintained with Mangushlak, which our maps represent as standing at the egress of the river Tedjen; but, according to the learned Wahl, that river and another which flows by Meshid, are received by an inland lake, the Kamysh Teshen, on the S. of the bay of Balkan; a circumstance which seems to be confirmed by the chart of the Caspian published by Hanway, in which the mouth of the Tedjen does not appear ‡. To the N. of the large bay of Balkan are the lake of Karabogas and another inlet, which is followed by the port of Alexander or Iskander.

As the merchants of Khiva brought gold and gems to Astrakan, probably from the two Bucharas, an idea was suggested to Peter the Great that these precious products were found in Kharizm, and he in consequence attempted a settlement. But the Russians, to the number of 3000, advancing under the command of a Circassian prince called Beckawitz, towards Khiva, were all cut off by the Uzbeks.

The history of Kharizm has been ably illustrated by its king, or khan, Abulgazi, in his general history of the Tatars written about 1660. He was born in 1605, and elected khan 1643, after a long imprisonment in Persia. He died in 1663, revered as an excellent prince, and a man endowed with the rarest qualities.

**GREAT BUCHARIA.]** By far the most important part of Independent Tatory is comprised under the name of Great Bucharia, generally supposed to have originated from the city of Bokhara, the first which the Persian merchants entered on visiting the country. It is part of the Touran of the ancient Persians, and was chiefly known to the Greeks and Romans by the names of Sogdiana and Bactriana; the former being the Maweralnahr, or country beyond the river, of oriental geography; while Bactriana corresponds with Balk. From the second son of Zingis it received the name of Zagathai. By the Byzantine historians the people are called Ephthalites, or corruptly Nephthalites, a name derived from the Oxus or Amu, by the Persians styled Abtelah, or the river of gold. Those Byzantine writers, who affect to imitate classical language, call the Ephthalites White Huns.

**EXTENT AND BOUNDARIES.]** Great Bucharia extends more than 700 B. miles in length from N. to S., by a medial breadth, if Fergana be included, of about 350, thus rather exceeding Great Britain in size, but much inferior to the country called Little Bucharia. The northern

\* Equal, by Hanway's account, to 27 B. miles; hence the distance of Khiva from the Caspian would be 459 B. miles, while our maps scarcely allow 300.

† Dec. Russ. iii. 120.

‡ Wahl, probably after D'Anville, places Mangushlak far to the north near the Desl Gulf, in the country of the Mankats, called Karakalpaks by the Russians. The map of Russia, 1787, gives the gulf of Mangushlak on the north of cape Kalagan. Colonel Bruce can deserve no credit in opposition to all the Russian accounts.

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boundary appears to be the mountains of Argun. On the western side a desert, the river Amu, and other deserts, divide Bucharia from Kharizm and Corasan: while on the S. and E. the mountains of Gaur, or Paropamisus, the Hindoo Koh, and the chain of Belur, are perpetual barriers.

**HISTORY.]** The original population of this country was Scythian, like that of Persia. Its history might be traced from the earliest periods, as the seat and source of the most ancient Persian monarchy. This region became better known by the expedition of Alexander, and the establishment of the Greek monarchy of Bactriana. But it is not till after the Mahometan conquest of Persia in the seventh century, that the history of this country becomes sufficiently clear. In 1494 Sultan Baber, a descendant of Timur, was with his Monguls expelled from Great Bucharia; and proceeding into Hindostan, there founded the Mongul power. The Tatarian victors, called Uzbeks, established a powerful monarchy in Bucharia; and successive khans held the sceptre from 1494 to 1658, soon after which period this great and fertile country appears to have been divided into several dominations, under numerous khans. In 1741 the city of Bokhara, with a small territory around it, constituted all the monarchy of one of these khans\*. Nadir first distinguished himself in Corasan, in combats with the Uzbeks. The province of Gaur is subject to the kings of Candahar; but Balk and Samarcand appear to remain subject to their own Uzbek khans. In the deficiency of recent accounts, it can only be conjectured that the chief powers of this country are the khan of Balk in the S., and of Samarcand in the N.

**RELIGION.]** The religion of the Uzbeks and Bucharians is the Mahometan of the Sunni sect, and the government of the khans is despotic. There is no precise evidence of the state of the population, which consists of the Tatars and of the Bucharians. It is probable that upon an emergency an army might be mustered of 100,000; but though Nadir reduced Bokhara and Khiva, he seems to have respected Balk and Samarcand, considering them as allied states, which furnished him with the best troops in his army: and he even regarded himself as a Tatar, not as a Persian. There is no statement of the revenue of these fertile provinces. From an account published by Hanway of the revenues of Nadir, it appears that Corasan yielded half a million sterling annually, being equal to that of Erivan, and superior to any other Persian province. It is probable that the revenue of Great Bucharia is at least equal to that of Corasan.

**MANNERS AND CUSTOMS.]** The manners and customs of the Uzbeks are similar to those of the other Tatars: but they are supposed to be the most spirited and industrious of these barbarians. Though many reside in tents in the summer, yet in winter they inhabit the towns and villages. They are, however, addicted to make sudden inroads into the Persian provinces. Those of Balk are the most civilized, and carry on a considerable trade with Persia and Hindostan. The native Bucharians, or Tadjiks, are comparatively fair, and correspond, in elegance of form and features, with those of Little Bucharia, whom they also resemble in the mode of dress. The Bucharians never bear arms. The Uzbeks, on the contrary, are no strangers to the use of the musket; and it is said that even their women, who surpass those of the other Tatars in beauty, are not averse to warfare, but will sometimes attend their husbands to the

\* Hanway, i. 242.



field. The language is Zaga haian, that is, Turkish or Turkomanic; but that of the Bucharians has never been investigated, though it be probably Persian, like their physiognomy, but intermingled with Turkish, Mongolian, and even Hindoo terms. The literature of Great Bucharia would furnish an ample theme, Samarcand having been a celebrated school of oriental science, cultivated even by monarchs, as Ulug Beg and others: it was still, in the beginning of the last century, the most celebrated of Mahometan universities\*.

PROVINCES.] The cities in Great Bucharia generally give name to the provinces, or receive their appellations from them. In the north the province of Fergana appears to be subject to the Kirguses of the Greater Hord; and of Andegan, its capital, there is no recent account. The other chief provinces are the western part of Shash, and a district called by D'Anville Ofrustma, from a town of the same name†. The most fertile and celebrated province is that of Sogd, so called from the river which pervades it. Next are Vash, Kotlan, and Kilan. Tokarestan and Gaur are the most southern provinces.

CITIES.] The chief city of Great Bucharia is Samarcand, on the southern bank of the river Sogd, which, at the distance of above a hundred miles, after washing the walls of Bokhara, passes through a considerable lake, and is supposed to join the Oxus or Amu.

Of this celebrated capital there is no recent account, but it seems greatly to have declined since the time of Timur, the festivities of whose court, at his palace here, and villas in the vicinity, have been so well described by his Persian historian. Towards the beginning of the last century, Bentink says that Samarcand was fortified with ramparts of turf, the houses being mostly of hardened clay, though some were of stone, from quarries in the neighbourhood. The khan of Great Bucharia commonly encamped in the adjacent meadows, the castle being almost ruinous. The excellence of the paper made of silk recommended it to all the countries of the east: and it is supposed that we derived this invention from Samarcand‡. The rich vale of Sogd produces such abundance of exquisite grapes, melons, pears, and apples, that they were sent to Persia, and even to Hindostan.

Bokhara, on the same river, has repeatedly contested the metropolitan dignity with Samarcand. When visited by the English agents in 1741, it was a large and populous city, subject to its khan; standing on a rising ground, with a slender wall of earth; the houses of clay, but the numerous mosques of brick§. The citizens manufactured soap and calico; and the chief products were cotton, rice, and cattle. From the Kalmuks they received rhubarb and musk: and from Badakshan, the capital of a country so called, they used to receive lapis lazuli, and other precious stones; that city being computed at sixteen days' journey from Bokhara. There was gold and copper coin: and after Nadir took this city, the Persian and Indian silver became common. In the tenth century it was distinguished by the manufacture of fine linen.

Balk is a distinguished city on the river Dehash, which flows into the Amu from the southern mountains of Gaur or Paropamisus, probably, as in the beginning of the last century, still subject to its particular

\* Bentink on Abulgaasi, p. 279.

† The Setrusteh of Ebn Haukal, p. 261.

‡ This manufacture is said to have been known A. D. 650. Ouseley's Ebn Haukal, p. 300. The same work may be consulted for the state of this great city in the tenth century.

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khan of the *Uzbeks*; being then the most considerable of all their cities, large and populous, with houses of brick or stone: while the castle or palace consisted almost entirely of marble from the neighbouring mountains. This beautiful city was an object of ambition to the neighbouring powers of Persia and Hindostan; but was secure not only from their mutual jealousy, but from the difficult access through high mountains on one side, and deserts on the other. The people were the most civilized of all the *Tatars*, and beautiful silks were prepared from the product of the country, which seems then to have included the whole of Great Bucharia to the S. of the *Amu*, which, in this part of its course, is also called the *Harrat*. It is the chief seat of the trade between Bucharia and Hindostan.

*Zouf*, which is also called *Gaur*, from the province of which it is the capital, is said to be now subject to the kingdom of Candahar and Bamiyan, in the same province, must have shared the same fate. The latter city was remarkable for numerous images, and other monuments, carved in the adjacent mountains. *Anderab* is the chief city of *Tokarestan*; near a pass through the mountains of *Hindoo Koh*, strictly guarded by the khan of *Balk*. In the neighbourhood of this city were rich quarries of *lapis lazuli*, a substance with which Great Bucharia seems chiefly to have supplied the ancient and modern world.

Not far to the north stands *Badakshan*, on the river *Amu* or *Harrat*. In the last century this city belonged to the khan of Great Bucharia, or rather of Samarcand; and being secluded in a branch of the *Belar Alps*, was used as a state prison for rivals or insurgents. *Badakshan* was small, but well built and populous; and its inhabitants were enriched by the gold, silver, and rubies found in the neighbourhood; the grains of gold and silver abounding in the torrents which descend from the mountains, when the snow melts in the beginning of summer\*. Several caravans for Little Bucharia and China pass by this city.

*Kotlan* or *Khotlan* is the capital of a province so called, but otherwise seems little memorable. Termed, situated on the *Amu*, is scarcely known in modern accounts: and in general the northern cities seem greatly to have declined under the domination of *Uzbeks*.

**MANUFACTURES.]** The chief manufactures have been already mentioned in the account of the cities. Besides the caravans to Persia, Hindostan and China, some trade is carried on with the *Russians*, the *Bucharian* merchants not only furnishing their own products, but others from the eastern countries to which they trade.

**CLIMATE.]** The climate in general appears to be excellent, the heat even of the southern provinces being tempered by the high mountains capped with perpetual snow; and though situated in the parallel of Spain, Greece, and Asiatic Turkey, the proximity of the Siberian deserts, and the lofty Alps, render the summer more temperate. The face of the country presents a great variety; but though there are numerous rivers, hills, and mountains, there seems to be a deficiency of wood†. Near the rivers the soil is very productive, so that the grass sometimes exceeds the height of a man; and in some parts considerable industry is shewn in the cultivation of rice and other grain. In any other hands but those of the *Tatars*, this country might rival any European region.

**RIVERS.]** The chief rivers of Independent Tatar are the *Amu* and

\* Bentinck on *Abulgazi*, p. 55.

† It is probable there may be large forests on the western side of the *Belar*, as Bentinck, p. 256, says that timber abounds.

the Sirr, or river of Shash. The former is the ancient Oxus, and near its source is called the Harrat: oriental geographers also term it the Gi-hoon, as they call the Sirr the Sihoon.

The Amu rises in the mountains of Belur, more than 200 B. miles N.E. from Badakshan, and before it reach that city, has already received the Ortong from the E. From Badakshan it passes W. to Termed, after receiving numerous streams from the Ak Tau on the N. and from the Hindoo Koh on the S. After being joined from the same quarter by the Dehash, or river of Balk, with collected streams from the mountains of Gaur, the Amu follows a N.W. direction, and falls into the sea of Aral, which appears, as before mentioned, to have been in all ages its chief receptacle, though a branch formerly passed by Urgenz towards the Caspian, and another seems to have been detached near Hazarasp. The whole course of this noble river surpasses that of the Tigris, being probably not less than 900 B. miles. It abounds with fish of various sorts.

The Sirr, or river of Shash, also rises in the mountains of Belur, and falls into the eastern side of the sea of Aral, after a course of about 550 B. miles. According to Islenieff the furthest source of the Sirr is the river Narin, which rises to the S. of the lake Tuzkul in the chain of Alak, near its junction with the Belur Alps; and by the account of Pallas the source is near that of the river Talas. The Narin itself consists of numerous streams collected from the ridges of Alak and Argun, bending to the S., while the other rivers in this quarter flow in a north direction; but the Sirr, peculiarly so called, rises in the mountains of Terek Daban, or northern part of the Belur chain, where it joins that of Alak. After passing Andegan and Cojend, the Sirr or Iaxartes runs N.W. by Tashkund and Tunkat, where it is joined by a considerable river from the E. At Otrar it receives the river Taraz. The remaining course of the Sirr is chiefly through the desert of Burzuk; and it is doubtful if it be joined by the Sarafu, a large river from the N., so imperfect is the geography of these regions.

In the country possessed by the three hords of Kirguses are also other considerable streams, as the Dzui, which rises on the N. of the lake Tuzkul; and the Irghez and Turgai, which flow into a lake on the N. of the Aral; not to mention the Issim, pervading the fleep of the same name. Several of these lakes and rivers, now obscure, are remarkable in the history of Zingis and his successors, when, directing their conquests to the N. of the Caspian, they subdued the greater part of European Russia.

**LAKES.]** The most considerable lake is the sea of Aral, or of eagles, already mentioned in the general view of Asia. The lake Tengis, Balkash, or Palkati, is near 140 B. miles in length, by half that breadth, being the largest lake in Asia, after the seas of Aral and Baikal; but this, with two other very considerable lakes to the E., properly belong to the Kalmuks subject to China. The lakes in the country of the Kirguses and in Great and Little Bucharía are of less moment.

**MOUNTAINS.]** The principal range of mountains is that of Belur, which, according to all accounts, is a great alpine chain, covered with perpetual snow. The chief branches proceed towards the W., for on the E. is the high central plain of Asia, full of deserts, as if nature had here performed her earliest operations, when this first and greatest continent emerged from the primeval waters. Of this extensive table-land the Belur may be regarded as the western buttress, continued by the

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#### MINERALOGY.

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mountains of Jimbal and Kisik Tag to the Altaian chain, which forms the northern buttress on the S. of the sea of Baikal. On the E. this chain gradually declines from the sources of the Onon and Kerlon, and the S. limit of the desert of Shamo, while the numerous alps of Tibet, to which country there is a gradual ascent from China, form the southern and excrecent buttress. Except in some few places, sheltered from the N. and E., this extensive elevation is exposed to extreme cold, the reverse of the deserts of Africa. It is intersected with great ranges of mountains, whose height must be enormous superadded to that of the bases; the western parts in particular, between Siberia and Tibet, abound with irregular ridges of naked rocks, presenting as it were the ruins of mountains.

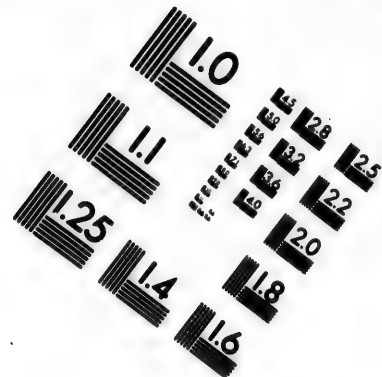
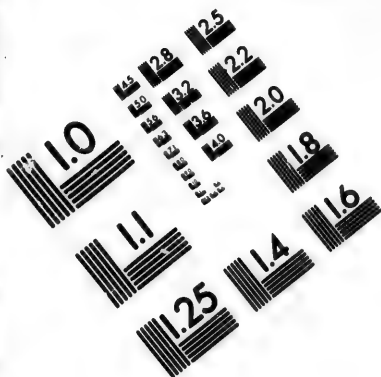
The chain of Belur, the ancient Imaus, proceeds nearly N. and S. and is continued by the mountains of Alak or Alak Oola on the N. of Little Bucharina, which joins the great Bogdo, the highest mountain in central Asia, according to the reports of the Monguls and Tatars. On the S. the Belur seems more intimately connected with the Hindoo Koh than with the northern ridges of Tibet. The Hindoo Koh, and mountains of Gaur, must not be forgotten among those of Great Bucharina, being seemingly an extension of the chain of Belur, without any interruption, except a narrow pass to the S. of Anderab. The mountains of Argjun or Argun seem to form one chain with the Kara Tau, though broken, as not unusual, by the transition of a river; and like the Ak Tau, in the S., appear a branch detached from the Belur.

MINERALOGY.] Neither the botany nor zoology of this country have been explored by any intelligent naturalist. We have seen that the alpine regions present many of the animals of Tibet. The mineralogy is not so obscure, though the Monguls and Tatars, who may be said to have possessed this country for a thousand years, have not industry for the proper pursuit of metallurgy. The alpine heights in the S.E. contain gold, silver, and a peculiar production, the balay, or pale rose coloured ruby; not to mention lapis lazuli. In the tenth century, before the native industry had expired under long oppression, Fergana produced sal ammoniac, vitriol, iron, copper \*, gold, and turkoises; and quicksilver is added, a rare and valuable product. In the mountain of Zarka there were springs of naphtha and bitumen, and "a stone that takes fire and burns," which must imply coal. In the country of Setrushteh, D'Anville's Ofrushna, there was a cavern, whence a vapour arose, which in the night seemed fiery, and from which sal ammoniac was procured. On digging the ground a similar vapour would arise, as we are told of the fires near Baku. In the mountains of Ailak or Ilak, the most northern province around Otrar, there were mines of gold and silver. The venerable father of Arabian geography, Ebn Haukal, has compensated for the penury of his information respecting natural history, by an animated character of this country and its people, which may be here introduced as a relief from the dryness of some of the details unavoidable in describing a country highly celebrated, but the geography of which unaccountably remains the most defective of any in Asia, with the single exception of interior Arabia.

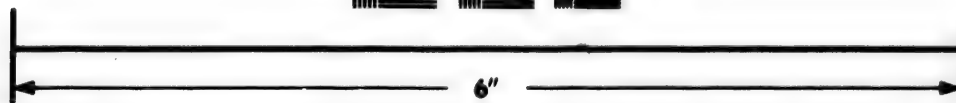
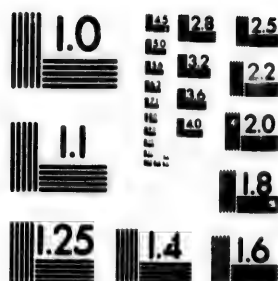
"Such are the generosity and liberality of the inhabitants, that no one turns aside from the rites of hospitality; so that a person contemplating them in this light, would imagine *that all the families of the land were but*

\* Ebn Haukal.





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*one house.* When a traveller arrives there every person endeavours to attract him to himself, that he may have opportunities of performing kind offices for the stranger; and the best proof of their hospitable and generous disposition is, that every peasant, though possessing but a bare sufficiency, allots a portion of his cottage for the reception of a guest. On the arrival of a stranger they contend one with another for the pleasure of taking him to their home, and entertaining him. Thus, in acts of hospitality, they expend their incomes. I happened once to be in Soghd, and there I saw a certain palace, or great building, the doors of which were fastened back with nails against the walls. I asked the reason of this, and they informed me that it was an hundred years and more since those doors had been shut, all that time they had continued open day and night, strangers might arrive there at the most unseasonable hours, or in any numbers, for the master of the house had provided every thing necessary both for the men and for their beasts; and he appeared with a delighted and joyful countenance when the guests tarried a while.

"In all the regions of the earth there is not a more flourishing or a more delightful country than this, especially the district of Bokhara. If a person stand on the Kohendiz (or ancient castle) of Bokhara, and cast his eyes around, he shall not see any thing but beautiful and luxuriant verdure on every side of the country: so that he would imagine the green of the earth and the azure of the heavens were united: and as there are green fields in every quarter, so there are villas interspersed among the green fields.

"The walls and buildings, and cultivated plains of Bokhara, extend above thirteen farsang, by twelve farsang; and the Soghd, for eight days journey, is all delightful country, affording fine prospects, and full of gardens, and orchards, and villages, corn fields, and villas, and running streams, reservoirs, and fountains, both on the right hand and on the left.

"You pass from corn fields into rich meadows and pasture lands; and the fruits of Soghd are the finest in the world\*."

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## ARABIA.

### CHAPTER I.

*Boundaries. — Population. — Progressive Geography. — Historical Epochs. — Religion. — Government. — Manners and Customs. — Dress. — Language. — Education. — Cities and Towns. — Edifices. — Manufactures. — Products. — Commerce.*

**T**HE last remaining country of the wide Asiatic continent is Arabia, a region more highly celebrated than precisely known. By the ancients it was divided into three unequal portions; Petra, or the Stoney, a small province on the N. of the Red sea, between Egypt and Palestine, so called from its bare granitic rocks and mountains, the most remarkable of which is Sinai; Arabia Deserta was the eastern part, so far as known

\* Ebn Haukal, by Sir Wm. Ouseley, p. 204.

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#### BOUNDARY.

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The central desert, called small portions contains Mecca Babelmandeb; Omon, on the Hajar, the He gulf.

#### POPULATION.

Arabs being the probable fathers of the languages are in different in form neighbours in the Arrians were the modern philosophers to infer superior Situated in a corner; and in the and Persian gulfs should occasion the of Tyre had explored to have discovered the less surprise, are a most sagacious spirit and valour, invader; and who flame of freedom, mountains. In corner of their ancient provinces Africa, and Egypt, and shewed a great that period. From guage and manners PROGRESSIVE ON in the earliest celebrated for products must have been no shores towards the pear to have known

to the ancients; while Arabia the Happy comprised the S.W. on the shores of the Red sea.

**BOUNDARIES.]** The boundaries on the W. and S. are marked by the Red Sea, or Arabian gulf, and the Indian ocean: while the Persian gulf extends a considerable way on the E. and this boundary is considered as continued by the deserts to the west of the Euphrates. The northern limits are less strongly marked; but both in ancient and modern times rise to an angle about an hundred miles to the E. of Palmyra, which is not included in Arabia. Thence the line proceeds S.W. to the S.E. angle of the Mediterranean, a northern boundary of Arabia Petrea.

From the cape of Babelmandeb to the extreme angle on the Euphrates, the length is not less than 1800 B. miles; while the medial breadth may be about 800.

The central part of Arabia is filled with the vast province, or rather desert, called Neged, occupying almost the whole country except a few small portions towards the shores, as Hejaz on the Red Sea, which contains Mecca and Medina, Yemen on the S. towards the straits of Babelmandeb; Hadramaut on the shores of the Indian ocean, and Omon, on the S. of the entrance of the Persian gulf; with Lahsa, or Hajar, the Hejer of D'Anville, on the western shores of the same gulf.

**POPULATION.]** The population is original and indigenous, the Arabians being the same race with the Assyrians of remote antiquity, the probable fathers of the Syrians, Egyptians, and Abyssinians, whose languages are intimately allied, as is that of the Hebrews; being totally different in form and structure from that of the Persians, their powerful neighbours in the E. By all accounts, sacred and profane, the Assyrians were the most ancient civilized and commercial people; and when modern philosophy is divested of its prejudices, there will be no reason to infer superior pretensions from China, and far less from Hindostan. Situated in a country nearly central, between Asia, Africa, and Europe; and in the wide intercourse of the Mediterranean, and the Arabian and Persian gulfs; it was natural that the variety of productions and wants should occasion the first rise of commerce in Syria; and the merchants of Tyre had explored the shores of Britain, while the Chinese seem not to have discovered those of Japan. This early civilization will excite the less surprise, when it is considered that even the modern Arabians are a most sagacious and intelligent race of men, remarkable also for spirit and valour, whose country alone has never been subdued by any invader; and who alone, of all Asiatic nations, have preserved the sacred flame of freedom, which their progenitors kindled in their inaccessible mountains. In comparatively modern times they have vindicated the same of their ancient pre-eminence by giving religion and laws to half of Asia and Africa, and a great part of Europe. The Arabian chalis in Spain, Africa, and Egypt, as well as at Bagdad, cultivated the arts and sciences; and shewed a great superiority to the barbarous powers of Europe at that period. From Samarcand to the centre of Africa the Arabian language and manners are held in veneration.

**PROGRESSIVE GEOGRAPHY.]** This distinguished country is known in the earliest records of history and geography; and being celebrated for products which could only be procured by navigation, must have been no stranger to mercantile enterprize on its furthest shores towards the Indian ocean. Strabo, and even Eratosthenes, appear to have known the southern coasts, though not so distinctly as

those on the east of the Arabian gulf. Ptolemy's description of Arabia evinces a considerable portion of accurate knowledge; and of the interior parts, as well as those of Africa, he, probably from his residence and opportunities in Egypt, had acquired a knowledge far superior to any possessed at the present moment. He has, however, greatly diminished the length of the Arabian gulf; and by increasing the size of the Persian has considerably injured the just form of the country. Some of these errors have been rectified by the later Arabian geographers, and our knowledge of the interior of the country has received considerable additions from the same authors. Yet even the just geography of the shores is recent, and has been improved since the time of D'Anville. Niebuhr, to whom we are indebted for the best account of this country, penetrated but a little way into the interior; and many discoveries here remain for the enterprising traveller: but the passage is extremely difficult, the country being divided among a surprising number of Imams and Sheiks, who often carry on petty wars, and plunder all strangers that fall into their hands.

**HISTORICAL EPOCHS.]** The historical epochs of this people might be traced from the Assyrian empire, the most ancient on record, the Assyrians being only a northern branch of the Arabs. But the history of interior Arabia is obscure, till the time of Mahomet; and their traditional songs chiefly celebrate Antai, a hero renowned like the Russian of the Persians. Arabia never appears to have been united either in a republic, or under one monarch, except in the time of Mahomet and his successors; and the traditions of the petty states cannot be interesting. The kingdom of Yemen, or the S. W. extremity, has been repeatedly subdued by the Abyssinians, the Persians, the sultans of Egypt, and the Turks\*; being separated from the interior by deserts, as well as mountains: but the wide inland countries of Neged have defied all invasion, and, far from being conquered, are almost unknown. Yet Niebuhr informs us that Arabian traditions faintly indicate that the whole country was subject in the earliest times to a race of monarchs called Tobba, like the Pharaohs of Egypt, worshippers of fire from the country of Samarcand, who vanquished Arabia, and introduced civilization.

**RELIGION.]** The ancient idolatry of Arabia has been explained by the writers on the life of Mahomet; and human sacrifices appear to have been offered by the natives of this country, as well as by their brethren the Syrians and Carthaginians. Sabianism afterwards spread from Chaldea. Nor was the Christian religion unknown before the appearance of Mahomet, whose system was soon diffused throughout Arabia. Besides the Suunis there is here a considerable sect called the Zeidites, who in most points agree with the former, but seem rather more lax in their faith and practice. About the middle of last century a sheik of Yemen, called Mekkrani, established a kind of new sect of Mahometanism: and about the same period what may be called a new religion was commenced in the province El Ared, in the central division of Neged, by Abdul Wahheb†; which by the latest accounts begins to make considerable progress under his successors. He is said to have taught that God alone should be adored and invoked; while the mention of Mahomet, or any other prophet, he considered as approaching to idolatry.

\* Gibbon, li. 229.

† Niebuhr's Description de l'Arabie. Copenhag. 1775, 4to. p. 290.

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**GOVERNMENT.]** This country is divided among numerous Imams and Sheiks, an idea of whose government may be drawn from that of Yemen which is described by Niebuhr. The title of *Imam*, implying Vicar, that is of Mahomet, is ecclesiastic; and among the Turks implies a common priest, while the Mulla presides in a court of justice. But among the Persians and Arabs the title Imam is of superior dignity, as the twelve Imams, or genuine successors of the prophet in Persia; while in Arabia the word is considered as synonymous with *Chalif*, and *Emir El Mumenin*, or Prince of the Faithful\*. The inferior governments are conducted by Sheiks, a term merely implying old men, and seems rarely mingled with the ecclesiastic character.

The throne of Yemen is hereditary; and the Imam, or Emir, an independent power, acknowledging no superior in spiritual or temporal affairs†. He possesses the prerogative of peace and war; but cannot be called despotic, as he cannot deprive even a Jew, or a Pagan of life, but the cause must be tried before the supreme tribunal of Sana, consisting of several Cadis, while he is only president. When an Emir shews a despotic disposition he is commonly dethroned. The next in rank are the Fakis, a title so lax as seemingly only to denote gentlemen. The governors of districts are called Dolas; or, if superior in birth, Walis. The Dola in some degree corresponds with the Turkish Pasha. The chief magistrate of a small town without a garrison is called Sheik; as a superior governor is sometimes called Emir, and in little villages Hakim. In each district there is also a Cadi; who, like those in Turkey, are judges of ecclesiastic and civil affairs; but in Arabia the prince himself is the high priest. His army, in peace, was computed at 4000 infantry and 1000 cavalry; the soldiers being, as usual in the east, without uniforms. There is no navy, and the vessels in general are very rudely constructed, those of Yemen having sails made of matting.

**MANNERS AND CUSTOMS.]** The manners and customs of the inhabitants are for the most part similar to those of the other Beduins, so frequently described by numerous travellers. Those of the country of Yemen have been accurately delineated by Niebuhr; and this province will probably, after the utmost discovery, continue to be regarded as the most interesting portion; representing, as Gibbon has observed, the Arabia Felix of antiquity. In Yemen murder is punished with death, but more often left to private revenge, which occasions family feuds, that pestilence of society. In politeness the Arabs vie with the Persians, and there are still remains of their ancient hospitality. The common salutation is the *Salam Alekum*, or peace be with you: in pronouncing which words they raise the right hand to the heart, but this form is seldom addressed to Christians. On meeting in their wide deserts the salutations are multiplied; and the hand of a superior is kissed in token of respect. The houses, though of stone, are meanly constructed; the apartments of the men being in front, those of the women behind. Of a middle stature, thin, and dried as it were by the sun, the Arab is moderate in his food, the common people seldom exceeding a repast of bad bread made from durra, a kind of millet, mixed with camels' milk, oil, butter, or grease; the only drink being water. This bread of durra custom has taught them to prefer to that of barley, which, though pleasant, they think unsubstantial. Meat is little used,

\* Niebuhr, 122.

† Ib. 179.

even by the rich, who deem it unhealthy in a hot climate. The orientals in general being water-drinkers they are very fond of pastry. The most noted drink is coffee, which they prepare like the Turks, by burning it in an open pan, and then bruising in a stone or wooden mortar. In Yemen it is rarely used, as in their opinion it heats the blood; but of the shells, or husks of the coffee, they prepare a liquor in the manner of tea. The most distinguished Arabs use porcelain from China, while the common people have recourse to earthen ware. Spirituous liquors, though forbidden, are not absolutely unknown; and they sometimes smoke a plant resembling hemp, which produces intoxication; nor is tobacco neglected, which is smoked either in the Turkish or Peruvian manner.

**DRESS.]** The dress, like that of the Turks and Hindoos, is long, often with large trowsers, a girdle of embroidered leather, and a knife, or dagger. Over the shoulder is worn a large piece of fine linen, originally designed to keep off the sun. The head dress seems oppressive, consisting of several bonnets, from ten to fifteen, some of linen, others of cotton and woollen, the outmost being often richly embroidered with gold; and around this multitude of bonnets is wrapped what they call a *fascia*, being a large piece of muslin, with fringes of silk or gold, which hang down behind. The women stain their nails red, and their feet and hands of a yellowish brown, with *henna*: the eye lashes are darkened with antimony, as in many other oriental countries; and every art is exerted to render the eye brows large and black. Polygamy is confined to the rich: and throughout the whole Mahometan regions is far less general than is commonly supposed in Europe.

**LANGUAGE.]** The language of the Arabs was, even in ancient times, divided into several dialects, as may be suspected from its wide diffusion. Even in Yemen there are subdivisions; and polite people use a different enunciation from the vulgar. The language of the Koran is so different from the modern speech of Mecca, that it is taught in the colleges there, at the Latin is at Rome. The chief poets are now found among the wandering Arabs in the country of *Jof* or *Mareb*, adjoining to Yemen on the E.\* Some also appear in the towns, where they amuse the company in coffee-houses; in this, as in other respects, resembling the Turkish. The ancient treasures of Arabian literature are well known to the learned world; but few of these noble monuments were composed in Arabia, being mostly produced in the conquered countries from Samarcand to Cordova.

**EDUCATION.]** Education is not wholly neglected, and many of the common people can read and write; while those of rank entertain preceptors to teach their children and young slaves. Near every mosque there is commonly a school, the masters, as well as the children of the poor, being supported by legacies. In the large towns there are many other schools, to which people of the middle class send their sons, who are taught to read, write, and account. The girls are instructed apart by women. In the chief cities are colleges for astronomy, astrology, philosophy, medicine, &c.: and in the little kingdom of Yemen there are two universities, or celebrated academies. The interpretation of the Koran, with the history of Mahomet and

the first chalifs, so language.

**CITIES AND TOWNS.]** The cities are placed with gold, the civilization, while the wandering tribes. The being sacred ground we are obliged to writers. Mecca "coraba, and has no and populousness of perfition, must have unpromising situation in a plain about two barren mountains: of Zemzem is bitter city; and grapes a dens of Tayef. The in Mecca, were con- grateful soil refused favourable to the en- the distance only of ence with Abyssinia. peninsula to Gerrha as it is said, of rock with the native pe- rasts to to the mouth equal distance a mo- Syria on the left hand mer station of her city the harbours of Om- laden with a precious manufactures was purch- lucrative exchange d- and the noblest of her merchandize \*."

The government of a temporal prince; and his metan sovereigns.

Medina stands about latter, about a day's according to Niebuhr, remarkable except for Sana, or Saana, in Arabia. It is situated near which is a space as one may walk round it cannot exceed five is occupied by gardens and there are several pal- mon houses are of brick, or caravanseras, rare, though there be



the first chalifs, form an extensive study, the records being in a dead language.

**CITIES AND TOWNS.]** Arabia has been compared to a cloak of frize, laced with gold, the skirts alone presenting cities and other marks of civilization, while the great mass of the country is possessed by wandering tribes. The most celebrated cities are Mecca and Medina; but being sacred ground, the infidels are not permitted to approach; and we are obliged to trust to the inaccuracy and exaggeration of oriental writers. Mecca "was known to the Greeks under the name of Macoraba, and has not, in the most flourishing period, exceeded the size and populousness of Marseilles. Some latent motive, perhaps of superstition, must have impelled the founders in the choice of a most unpromising situation. They erected their habitations of mud or stone, in a plain about two miles long and one broad, at the foot of three barren mountains: the soil is a rock; the water even of the holy well of Zemzem is bitter or brackish; the pastures are remote from the city; and grapes are transported above seventy miles, from the gardens of Tayef. The fame and spirit of the Koreishites, who reigned in Mecca, were conspicuous among the Arabian tribes; but their ungrateful soil refused the labours of agriculture, and their position was favourable to the enterprises of trade. By the sea-port of Gedda, at the distance only of forty miles, they maintained an easy correspondence with Abyssinia. The treasures of Africa were conveyed over the peninsula of Gerrha or Katif in the province of Bahrein, a city built, as it is said, of rock salt, by the Chaldean exiles: and from thence, with the native pearls of the Persian gulf, they were floated on rafts to the mouth of the Euphrates. Mecca is placed almost at an equal distance a month's journey, between Yemen on the right and Syria on the left hand. The former was the winter, the latter the summer station of her caravans. In the markets of Saana and Merab, in the harbours of Oman and Aden, the camels of the Koreishites were laden with a precious cargo of aromatics: a supply of corn and manufactures was purchased in the fairs of Bosra and Damascus; the lucrative exchange diffused plenty and riches in the streets of Mecca; and the noblest of her sons united the love of arms with the profession of merchandize \*."

The government of this holy city is vested in a sheref, who is a temporal prince; and his revenue is increased by the donations of Mahometan sovereigns.

Medina stands about 200 B. miles N. of Mecca, being, as well as the latter, about a day's journey from the shores of the Red Sea. It is, according to Niebuhr, a small town, surrounded with a paltry wall, little remarkable except for the tomb of Mahomet.

Sana, or Saana, in Yemen, is reputed at present the chief city of Arabia. It is situated at the bottom of a mountain called Nikkum, near which is a spacious garden. The city is not very extensive, as one may walk round it in the space of an hour, so that the circuit cannot exceed four miles; and even of this small space a part is occupied by gardens†. The walls are of brick, with seven gates; and there are several palaces of burnt brick, or of stone; but the common houses are of bricks dried in the sun. There are several simseras, or caravanseras, for merchants and travellers. Fuel is extremely rare, though there be some pit-coal and peat; but wood is scarce;

\* Gibbo, ix. 297.

† Nieb. Desc. 201.

even in the Happy Arabia. There are excellent fruits, particularly grapes of many varieties. About six miles to the north there is a pleasant dale, enlivened with several rivulets; and to the west is a considerable stream.

When such is the chief city of Arabia, the description of the others cannot be very interesting. Judda, or Jedda, is the sea-port of Mecca. The town of Mocha stands in the Tehama, or plain country of Yemen, and was built about four centuries ago; it is now chiefly frequented, on account of its coffee, by English vessels from Hindostan. Kesem or Keschin, belongs to the country called Mahrah: to the sheik of this town the noted isle of Socotra belongs, which is celebrated for aloes\*. The province of Omon is divided among many sheiks, but Rostac is esteemed the capital. Maskat is however the most considerable town, and the best known to Europeans, having an excellent harbour, and being from early times a staple of trade between Arabia, Persia, and the Indies. It was taken by the Portuguese in 1508, and they retained it for a century and a half. It is visited by English ships from Hindostan; and such is its consequence, that the Imam or prince of Omon is often styled Imam of Maskat.

Lahsa, the capital of the province so called, is a large and well built town, standing on a torrent, which falls into a considerable bay opposite to the isle of Bahrin, celebrated for the pearl fishery †.

**EDIFICES.]** Among the chief edifices of Arabia must be named the Kaba, or temple of Mecca, which, according to the representation of Niebuhr, rather resembles the old Asiatic temples of Hindostan and Siam than a mosque, being an open square, encompassed with a colonade, and ornamented with minarets, as the others are with pyramids or obelisks. In this open space, which, as well as that of Medina, it seems improper to call a mosque, there are five or six houses of prayer, or chapels; while in the centre is a small square edifice, peculiarly styled the Kaba, in which is fixed a black stone, the early object of Arabian adoration.

**MANUFACTURES, &c.]** The manufactures of Arabia are of little consequence, though the people be most ingenious and industrious when encouraged by government and opportunities. Even in Yemen the works in gold and silver, and the coin itself, are produced by Jewish manufactories. In all Arabia there are neither wind-mills nor water-mills. Some musquets are made in the country, but they are mere matchlocks of mean execution. At Mocha there is one glass house; and there are in Yemen some coarse linen manufactures. The ancients vainly assigned to Arabia the Happy many products which the inhabitants imported from the East Indies; but aloes, myrrh, frankincense, though of inferior kind ‡, constitute, with coffee, the chief products of Arabia.

**COMMERCE.]** The Arabian intercourse with Hindostan has greatly declined since the discoveries of the Portuguese, whose superior skill and maritime force eclipsed the small vessels of the Arabs. From Yemen are exported coffee, aloes, myrrh (the best of which is from Abyssinia), olibanum, or an inferior kind of frankincense, senna, ivory, and gold from Abyssinia. The European imports were iron, steel, cannon, lead, tin, cochineal, mirrors, knives, fabrics, cut glass, and false pearls. Niebuhr regards aloes and frankincense, (the latter chiefly from Hadramaut),

\* Niebuhr, 248.

† Ib. 294.

‡ Niebuhr, 126; even this substance was chiefly from Abyssinia and the East Indies.

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which borders eastward on Omon, and must also be included in Arabia Felix, as the only native articles of commerce before coffee came into use\*.

## CHAPTER II.

*Climate and Seasons.*—*Face of the Country.*—*Soil and Agriculture.*—*Rivers.*  
—*Mountains.*—*Deserts.*—*Botany.*—*Zoology.*—*Mineralogy.*—*Natural Curiosities.*—*Isles.*

CLIMATE AND SEASONS.] IN the mountains of Yemen there is a regular rainy season, from the middle of June to the end of September: but even then the sky is rarely covered with clouds for twenty-four hours at a time; and during the remainder of the year a cloud is scarcely to be seen. At Maskat, and in the eastern mountains, the rainy season extends from the middle of November to the middle of February; and in Omon there is rain from the middle of February to the middle of April. In the plains of Yemen rain is sometimes unknown for a whole year; and in July and August the thermometer will be 98°, while at Sana in the mountains it is 85°. In general the wind from the sea is moist, and that from the interior deserts is dry, in the northern parts of which are chiefly perceived the disastrous effects of the burning wind called Samiel.

FACE OF THE COUNTRY.] The general aspect of Arabia presents a central desert of great extent, with a few fertile oases, or isles, as in Africa; while the flourishing provinces are those situated on the shores of the sea, which supplies rain sufficient to maintain the vegetation. In Yemen there are mountains of considerable height, but chiefly barren and unwooded; while the temperature and plants form a striking contrast with those of the plains: yet the want of rivers, lakes, and perennial streams, must diffuse ideas of sterility through the Arabian landscape.

SOIL AND AGRICULTURE.] The nature of the soil has not been indicated; but agriculture is occupied in the production of beautiful wheat, maize, *durra* a kind of millet, barley, beans, lentils, rape; with the sugar cane, tobacco, and cotton. A few dyeing drugs, especially indigo and Indian madder, are also cultivated. The grain in general yields little more than ten for one; but the *durra* sometimes greatly exceeds that standard. The plough is simple; and the pick is used instead of the spade. The chief exertion of agricultural industry is to water the lands from the givulets and wells, or by conducting the rains. The harvest is torn up by the roots, and forage cut with the sickle. Barley is reaped near Sana in the middle of July; but the season depends on the situation. At Maskat wheat and barley are sown in December, and reaped in March.

RIVERS.] In the defect of rivers strictly belonging to Arabia, the Euphrates and Tigris, which pass through Irak Arabi, have been claimed by some geographers; and the Euphrates may be aptly considered as an Arabian river. But in Arabia Proper what are called rivers are mere torrents, which descend from the mountains during the rains, and for a short period afterwards. The most important river is probably that which rises near Sana, and joins the Indian sea below Harjiah. The smaller streams of Yemen may be traced in Niebuhr's map of that coun-

\* Niebuhr, 243.

try. The little river of Krim flows from Mahrah into the same sea, and is followed by two or three brooks in Omon. One or two small saline lakes occur in situations encircled with hills, which prevent the water from passing.

**MOUNTAINS.]** The chief range of mountains seems to proceed in the direction of the Red Sea; towards the N. not more than 30 miles distant, but sometimes in the S. about 150, a circumstance which imparts extent and fertility to Yemen. The hills of Omon seem a continuation of those on the other side of the Persian gulf: and the isles in the mouth of that gulf may be regarded as summits of that range. In the country of Seger, commonly ascribed to Hadramaut, there is a range of hills remarkable for the product of frankincense.

The direction of the other ranges cannot be ascertained in the imperfect geography of the country. In the division called Arabia Petraea the celebrated mountain of Sinai must not be omitted, which presents two sublime summits of red granite.

**DESERTS.]** The sandy deserts of Arabia are more striking objects than the mountains. From Omon to Mecca the greater part of Neged is one prodigious desert, interrupted towards the frontiers of Hejaz and Yemen by Kerjé, containing the district of Surfa, and some fertile spots and towns, indicated by Niebuhr. The N. W. part of Neged presents almost a continued desert, a prolongation as appears of the other, with an *oasis*, Ared on the W. of Lahsa, including Jabrin, and some other places mentioned by the same author. In this desert there is also the *oasis* of mount Schamer, and perhaps several others, which may remain for a long time unknown to geography.

**BOTANY.]** The greater part of Arabia being composed of dry barren deserts of sand, wholly destitute of rivers, and containing but here and there a few scanty springs of brackish water, offers no adequate recompence to botanical investigations. The vegetables in these districts are of rare occurrence, and consist chiefly of the saline succulent species able to endure the full force of a vertical sun, with no other refreshment than what is afforded by the nightly dews. The greater part of them have little external beauty, and when found in more propitious climates obtain notice only from their singularity: here, however, they serve to mitigate the thirst of the parched camel, and to keep up the spirits of the toiling caravan, by breaking in occasionally on the melancholy uniformity of the desert. A more interesting scene however is presented to the botanist on the western side of the Arabian desert; here numerous rivulets descend from the mountains into the Red Sea, and scatter with a lavish hand fragrance and verdure wherever they flow: the mountains themselves too, whence these streams originate, abound in vegetation; so that the plants in this part of Arabia may be conveniently distributed into three classes, namely those that inhabit the sea shore, the plains, and the mountains. The first of these divisions bears a near affinity to the scanty flora of the desert: a sandy soil impregnated with salt, and an open exposure to the influence of the sun, produce similar effects in both situations. The champaign country between the shore and the mountains, though traversed by streams, is yet too deficient in water to support the luxuriant vegetation that distinguishes the plains of India; the lower parts are chiefly occupied by grasses and other humble plants, which afford a most grateful sustenance to the flocks and herds of the pastoral tribes that wander over them. The sides of the rivers, the valleys among the mountains, and the plains at their feet, are far superior to the rest of the country. Here cultivation and nature seem to contend with each other in the richness of their

their production. Many of the Ind use, have been truly indigenous cotton tree, the cane, and a mulgourds. Two v Felix, namely, the opobalsamum, from grant and cottle Arabia, although among the mount and the great fan and apricot, the orange, nearly con The list of shrubs a be interesting to th icularized the ric and the white lily a and fragrance.

**ZOOLOGY.]** The to Zimmerman this N. of Hadramaut Kadijbi, or common the *Kochlani*, or not thousand years, pr These will bear the living on air, to a foe with impetu when wounded in may be secure; a Kochlani are neither garded; their race estimation. They a deserts between Per carefully and authent stallion with an igno are sometimes bough is also in this country qualities to the mule,

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their productions; nor is it easy to assign exactly the limits of each. Many of the Indian and Persian plants, distinguished for their beauty or use, have been transported hither in former ages, and are now found in a truly indigenous state; this is probably the case with the tamarind, the cotton tree, the pomegranate, the banyan tree or Indian fig, the sugar cane, and a multitude of valuable species and varieties of melons and gourds. Two valuable trees however are the peculiar boast of Arabia Felix, namely, the coffee, found both cultivated and wild, and the amyris opobalsamum, from which is procured the balm of Mecca, the most fragrant and costly of all the gum-resins. There are no proper forests in Arabia, although groves and scattered trees are by no means unfrequent among the mountains. Of the palms, it possesses the date, the cocoa nut, and the great fan-palm. The sycamore fig, the plantain, the almond and apricot, the bead tree, the mimosa nilotica and sensitiva, and the orange, nearly complete the catalogue of its native and cultivated trees. The list of shrubs and herbaceous plants does not contain many that would be interesting to the general reader: among these however may be particularized the ricinus, the liquorice, and the senna, all used in medicine; and the white lily and greater pancratium, distinguished for their beauty and fragrance.

**ZOOLOGY.]** The horse is the glory of Arabian zoology. According to Zimmermann this animal is found wild in the extensive deserts on the N. of Hadramaut\*. They are here divided into two great classes, the *Kadishbi*, or common kind, whose genealogy has not been preserved: and the *Kochlani*, or noble horses, whose breed has been ascertained for two thousand years, proceeding as they fable, from the stalls of Solomon. These will bear the greatest fatigues and pass whole days without food, living on air, to use the Arabian metaphor. They are said to rush on a foe with impetuosity; and it is asserted that some of this noble race, when wounded in battle, will withdraw to a spot where their master may be secure; and if he fall they will neigh for assistance. The *Kochlani* are neither large nor beautiful, nor is their figure at all regarded; their race and hereditary qualities being the sole objects of estimation. They are chiefly reared by the Beduins, in the northern deserts between Persia and Syria. The preservation of the breed is carefully and authentically witnessed; and the offspring of a *Kochlani* stallion with an ignoble mare is reputed *Kadishbi*. The Arabian steeds are sometimes bought at excessive rates by the English at Mocha. There is also in this country a superior breed of asses, approaching in form and qualities to the mule, and sold at high prices.

This region, or Africa, seems also the native country of the camel, emphatically styled by the orientals the ship of the desert; being, by the expansion of its feet, the faculty of bearing thirst and hunger, and other qualities, peculiarly adapted by the author of nature to perambulate the sandy wastes which would otherwise remain unpassable.

The buffalo seems unknown, being an animal which delights in mud and water; but the cattle have generally a hunch on the shoulder. The breed of sheep has not been particularly illustrated; but it would appear that both the wool and mutton are coarse. The rock goat is said to be found in the mountains of Arabia Petrea. The other animals are the jakkal, or chacal; the hyena towards the Persian gulf; numerous monkeys in the woods of Yemen; the jerboa, or rat of Pharaoh, in Neged: there are also antelopes, and wild oxen, with wolves, foxes, and wild

\* Zoologia Geographica, 1777, 4to. p. 140 from Leo Afric.



boars, and the large and small panther. The tiger seems utterly unknown; and the lion only appears beyond the Euphrates. Among the birds may be named the pheasant, common in the woods of Yemen, as the grey partridge is in the plains; while the ostrich is no stranger in the deserts. A bird of the thrush kind, venerated because it destroys the locusts, is thought to come annually from Corasan. Land tortoises abound; and are eaten by the Christians in Lent. A little slender serpent, called baetan, spotted with black and white, is of a nature remarkably poisonous, the bite being instant death. The locust too is numerous; but the natives esteem the red kind as a fat and juicy food, and view it with no more aversion than shrimps or prawns are beheld by us.

**MINERALOGY.]** The mineralogy of Arabia is of small importance. Having no native gold, the people are still addicted to the insatiation of alchemy. Nor is silver found, except mingled, as usual, with lead in the mines of Omon. There are some mines of iron in the district of Saade, in the N. of Yemen; but the metal is brittle. Those agates containing extraneous substances, which from the town are called Mocha-stones, are brought from Surat\*. The best cornelians also come from the gulf of Cambay. But Arabia produces onyxes in the province of Yemen. Rock salt also appears near Loheia. Not one of the gems appears to be produced in Arabia. Near Hamada, in a district of Yemen called Kaukeban, there is a warm spring of mineral water.

**NATURAL CURIOSITIES.]** Several of those uncommon appearances which geographers style natural curiosities, may, no doubt, be found in this extensive country, when more thoroughly explored. Amidst the deficiency of water, it is not surprising that the grand reservoir near the ancient city of Mareb, though in a small part a work of art, was regarded as a singular exertion of nature†. Mareb is still the chief town of the province of Jof, about 75 B. miles N.E. from Sana, containing about 300 mean houses with a wall and three gates. In an adjacent vale, about 20 B. miles in length, were united six or seven rivulets, running from the west and from the south, partly from Yemen; and some said to be perennial streams, full of fish. The two chains of mountains, inclosing this vale, approach so near at the east end that the space might be walked over in five or six minutes; or was about a quarter of a mile. This opening being shut by a thick wall the water was retained, and imparted particular advantages to agriculture. But the wall, constructed of large masses of hewn stone to the height of forty or fifty feet, was neglected after the fall of the Sabeen kingdom; and burst in the middle, leaving only the ruins on both sides, so that the water is now lost in the desert on the N. of Hadramaut.

**ISLES.]** Besides several isles of little consequence in the Arabian gulf, there are two islands which deserve particular notice. Socotra, about 240 B. miles from the southern coast of Arabia, appears in all ages to have belonged to that country, and to have been celebrated for the production of aloes, still esteemed superior to any other. The inhabitants are clearly of Arabian extract. There are two bays, and some secure harbours; and the isle is also said to produce frankincense, while ambergris and coral are found in the neighbouring seas. The isle of Bahrin is in the Persian gulf, near the Arabian coast, and remarkable for the great pearl fishery in its neighbourhood. The name *Bahrin* is a modern appellation for Abulfeda, as well as the Arabs of Lahia, call the large isle Aual. The

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\* Niebuhr, 125. † Ib. 240.

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• Histoire des Naviga



inhabitants of Aual, and the smaller isles, are Arabs of the Chia persuasion. In the large isle there is a fortified town; and in the whole group there may be forty or fifty mean villages.

## ASIATIC ISLANDS.

### INTRODUCTION.

*General Arrangement of the Asiatic Islands, including Australasia and Polynesia.*

HAVING thus completed the description of the wide continent of Asia, so far as the limits assigned to this work would admit, a difficult field of investigation opens in the innumerable Asiatic islands, and those situated in the Pacific, or more properly Great Oriental Ocean.

These regions are, however, of so wide and distinct a nature, consisting of almost a new continent in the south of Asia, and scattered groups of isles in the Pacific, many of them nearer to South America than to Asia, that they cannot well be blended under one denomination, as was long since observed by the learned president De Brosse, who, nearly half a century ago, proposed that the countries to the south of Asia, namely New Holland, New Guinea, and New Zealand, &c. should be styled *Australasia*, and the numerous isles in the Pacific *Polynesia*, from a Greek term implying many islands \*. A description of the large island or rather continent of New Holland with its appendages naturally follows that of Asia, and the Asiatic islands in the Indian ocean; and will be properly succeeded by that of Polynesia, or the islands in the Pacific; which are far remote from the American coast, but are connected by brief passages with Australasia, the Sandwich islands alone excepted, which may however be followed by groups to be discovered to the S.W. so as to be connected with Polynesia. The reader needs scarcely be reminded that in this quarter alone of the world this remarkable exception occurs; for the islands belonging to both Americas, to Africa, and to Europe, are sufficiently distinct and appropriated, while the name of Asiatic islands, enormous as Asia itself, might be diffused to such an extent, as to embroil the utmost powers of geographical description, and present only vague confusion, instead of scientific precision. Before however a proper arrangement can be followed, it will be proper to fix some limits between the Indian and Pacific Oceans.

As the continent of America divides the Atlantic, or Great Western Ocean, from the Pacific, or Great Eastern Ocean, (both so termed in relation to the ancient and civilized world,) and as Africa divides the Atlantic from the Indian ocean, so, by parallel usage and deduction, what is called New Holland may be considered as the fixed division between the Indian and Pacific, thus claiming with justice the authority of a continent, washed by the Indian ocean on the west, and the Pacific on the east;

\* *Histoire des Navigations aux Terres Australes.* Paris, 1756, 2 vols. 4to.

while

while a line drawn from the most prominent central capes, in the North and South, may be regarded as a boundary of these two oceans. The southern extension of this imaginary line is of little moment; but in the north it must be considered as a division of great importance to precise discussion, as the isles on the west must be considered as strictly Asiatic, and intimately connected with the description of Asia: while those on the right belong to Australasia and Polynesia. This division must naturally and unavoidably depend on the observation of the widest channel between the Molucca Islands\*, and Papua, or New Guinea: and the degree of longitude,  $130^{\circ}$  from London, seems nearly to amount to a boundary. Hence Amboyna belongs to the Asiatic isles, while Timor-laut belongs to Australasia. The meridian of boundary passes through Ceram; but the proximity of that isle to Amboyna may properly connect it with the Asiatic isles, with which Mysol may also be classed. From the N.W. extremity of Papua, or rather some small islands lying at that extremity, a clear line may be drawn, following the same meridian, and leaving Gilolo among the Asiatic isles on the W. and those of Pelew among the Polynesian in the Pacific. This line then bending N.W. would include the Philippine islands and the Bashees, passing to the S. of Formosa; the other limits and appellations being sufficiently clear.

Such may therefore be the assumed boundary between the Indian ocean and Chinese sea on the W. and the Pacific on the E. and between the Asiatic isles, and Australasia and Polynesia. The boundary between the two latter great divisions may be traced by regarding what is called New Holland as a continent, or great leading island, with which those most adjacent must be regarded as connected. Hence Papua belongs to Australasia: and a line drawn in the latitude of three or four degrees to the N. of the equator, and then passing S. in the meridian of  $170^{\circ}$  E. from Greenwich, so as to include the New Hebrides, thence in the parallel of  $30^{\circ}$  S. gradually stretching to  $175^{\circ}$  W. from Greenwich, including New Zealand, and the isle called Chatham, will present the natural and precise boundary of Australasia.

That division called Polynesia, by far the most extensive, adjoins the W. to the line above drawn around the Asiatic isles; thence it ascends about lat.  $18^{\circ}$  long.  $128^{\circ}$  E. in a north-east direction, so as to include the isle called Rica de Plata, long.  $161^{\circ}$ , and thence curving S. E. and encompassing the northern Sandwich islands, where our great navigator fell†, and the Marquesas, and extending to  $120^{\circ}$  W. from London. Any isles to the N. E. or E. of this line of demarkation may be regarded as belonging to North or South America.

The southern boundary of the Asiatic isles may be considered as sufficiently ascertained by the wide channel between them and New Holland; while the N. W. extremity of Sumatra may present a meridian of separation on the W. between the Asiatic isles, eminently so styled, and those in the Indian ocean. The same western boundary may be assigned to Australasia.

The southern limits of the last, and of Polynesia, alone remain; but as few or no islands have been discovered to the S. of New Zealand, the parallel of  $50^{\circ}$  S. lat. may be lastly assumed as the boundary of both.

\* This name, originally confined to five small islands, has been extended by the French geographers to a large group between Borneo and New Guinea.

† There are other Sandwich islands, lat.  $59^{\circ}$  S., or beneath the parallel of Cape Horn. Such is the perplexity of the received nomenclature.

Polynesia

Polynesia will then be  $85^{\circ}$ , or  $5100$  g. from Greenwich, or  $3,600$  degrees, or  $3,600$  g.

The length of Australia is  $185^{\circ}$  the breadth lat.  $9^{\circ}$  1

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Arrangement of those Sumatran Chain. 5. Spice Islands.

AN inspection of shew that a great extends from Sumatra includes Sumatra, Java chief isles; with Sumatra, Banca, &c. This nature, might either or the received name to this group: which founds or passages from Chinese sea.

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Polynesia will thus extend from  $50^{\circ}$  S. lat. to about  $35^{\circ}$  N. lat. that is  $85^{\circ}$ , or 5100 g. miles; while the breadth taken from long.  $170^{\circ}$  E. from Greenwich, to  $130^{\circ}$  W. upon the equator itself, will yield sixty degrees, or 3,600 g. miles.

The length of Australasia may be computed from  $95^{\circ}$  of the same longitude to  $185^{\circ}$ , that is  $90^{\circ}$  in lat. 30, or nearly 5000 g. miles; while the breadth lat.  $3^{\circ}$  N. to lat.  $50^{\circ}$  S., will be 3,180 g. miles.

Even the smallest division, that of the Asiatic isles, which has been called the Oriental Archipelago, is of great extent from  $13^{\circ}$  S. lat. to  $22^{\circ}$  N. lat. that is  $35^{\circ}$ , or 2,100 g. miles; while the length from  $95^{\circ}$  E. long. to  $132^{\circ}$ , yields 37 degrees not far from the equator, nearly corresponding with the breadth.

## ASIATIC ISLES.

*Arrangement of those in the Oriental Archipelago.* — 1. *Isles of Sunda, or Sumatran Chain.* — 2. *Borneo.* — 3. *Manillas.* — 4. *Celebesian Isles.* — 5. *Spice Islands.*

AN inspection of the maps and charts of this part of the globe will shew that a great chain of islands, connected with much proximity, extends from Sumatra N. W. to Lackal or Lachal S. E. This chain includes Sumatra, Java, Balli, Sumbava, Florez, and Timor, as the chief isles; with Sumba in the S., and in the N. Madura, Billiton, Banca, &c. This chain, divided and distinguished by the hand of nature, might either be termed the Sumatran islands, from the chief, or the received name of isles of Sunda may be extended and restricted to this group: which, besides the strait so called, presents many other sounds or passages from the Indian ocean towards the Pacific and the Chinese sea.

Borneo, an island of vast extent, should not be considered as belonging to any group; but the small isles around it may be termed the Bornean islands, as the Sooloos, Pulo Laut, Anumba, Natuna.

The Philippine islands may already be regarded as the most regular and precise group in these seas, including the Bashees, and other little groups in the north, and Mindanao and Pu'awan in the south.

There remains the large island of Celebez, which may be considered as grouped with Shulla, Boutan, Salayar, &c. and the whole may be termed the Celebesian isles.

The Molucca islands, an ancient and venerable name, are properly only five of small size, on the west of Gilolo: but it seems proper to extend this appellation to Gilolo, Mysol, Ceram, Amboyna and Banda. The remaining isles in the S. E. belong to Papua in Australasia.

These five divisions are not only indicated by the hand of nature, but seem sufficient for a description of this vast archipelago.

### 1. THE ISLES OF SUNDA, OR THE SUMATHAN CHAIN.

THIS division, as already explained, comprises Sumatra, Java, Balli, Lombok, Sumbava, Florez, and Timor; with several isles of less note in the vicinity of these.

Sumatra is an island of great extent, being not less than 950 B. miles in length, by about 200 in breadth; for on so vast a scale are the regions

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connected with Asia, that Great Britain, if situated in the oriental archipelago, would only in size rival Sumatra and Borneo. The English settlement of Bencoolen, in the S.E. part of this island, has occasioned particular attention to its nature and productions, especially since Mr. Mariden published an ample and intelligent account of this interesting island, from which this brief description shall be abstracted\*. It was certainly unknown to the ancients, the information of Ptolemy terminating considerably to the north, and the mountain of Ophir, whence some have supposed this country known to Solomon, is a modern European denomination. The Arabs seem to have been acquainted with this island in the 9th century, but it became first known to Europeans in the 16th. A chain of mountains runs through the whole isle, the ranges being in many parts double and treble, generally nearer to the western coast, where they approach within twenty miles of the sea; but the height is not so considerable as to retain snow. Mount Ophir, immediately under the equinoctial line, is 13,842 feet above the sea, only yielding about 2,000 feet to mount Blanc. Between the ridges of mountains are elevated plains, with lakes and waterfalls, one of which is from the summit of a conic mountain. There are many rivers on the western coast, but commonly impeded by sand-banks, so as to present few means of navigation. In the midst of what is called the Torrid Zone the thermometer seldom rises above 85°, while in Bengal it attains 101°; and the inland inhabitants of the mountains use fires to dispel the morning cold; yet frost, snow, and hail are unknown. Thunder and lightning are frequent, particularly during the N.W. monsoon. The year has two divisions, called the rainy and dry monsoons; the S.E. or dry, beginning about May and ending with September; the N.W. or wet, beginning in November, and ending about March; the intermediate months, April and May, October and November, being variable: on the west coast the sea breeze begins about ten in the forenoon, and continues till six in the evening; being succeeded by the land breeze during the night. The soil is generally stiff reddish clay, covered with a layer of black mould, the source of perpetual verdure; but three quarters of the isle, especially towards the south, present an impervious forest. On the west, between the mountains and the sea, there are large swamps; but even here the face of the country is remarkably broken and uneven. There seem to be many mines of gold, though mostly neglected; and the copper is mingled with that metal. There are excellent ores of iron and steel: and that rare mineral, tin, is one of the chief exports, being principally found near Palimbang on the eastern shore, a continuation probably of the rich beds of Banca. Gold is found near Bencoolen, and in other places, but of inferior quality. The little island of Poolo Pisang, close to the foot of mount Poogon, is mostly a bed of rock crystal. There are several volcanic mountains in Sumatra, as in most of the other islands of the oriental archipelago, but eruptions are unfrequent. The sea coast is chiefly occupied by the Malays, who seem to be recent settlers, and their language a dialect of a speech most widely extended, from Malacca, and perhaps the south of Hindostan, nearly as far as the western coasts of America, through the innumerable islands of the Pacific. By the account of Mr. Mariden there are inland races, of whom the Googoo are covered with long hair, and little superior to the Orang Outangs of Borneo. The chief native sovereignty is that of Menang Cabou, but the Rejangs seem to retain the purest race and manners. They are rather short and slender: the noses of infants are flattened, and their complexion is pitted; the adults have a tawny fair, and common features.

\* History of Sumatra, 1798, 4to. 2d ed.

tened, and their complexion is pitted; the adults have a tawny fair, and common features. The chief district seems to be that of the Malays consists of which is the crested surrounded with The houses are of ing on pillars, and simple, and common than in the islands and hardy: the co Bengal. Here an tiger, bear, otter, ties of the monk Among birds, the The jungle fowl, the south of remarl of Java, which alfects of all kinds most abundant article being produced by per is procured by phor is another rema cinnamon, is found iported to Europe fo is also to be met wi the most beautiful r fineness, gloss, and d superior to the labo and brittleness of t and is only applied mattresses. It grow open when ripe. T without taste. The perfectly straight and angles at the same l and the several gradatop. Some travellers furniture called a dun The commerce is chi eel in gold and silver manufactures are imp the Malays, several la a manifest affinity a speech which may be umerable islands in th the other Asiatic isles, a certain degree of civ many magistrates; but

tened, and their ears extended; but the eyes are dark and clear. The complexion is properly yellow, being without the red tinge, which constitutes a tawny or copper colour: but the superior class of women is fair, and commonly of not unpleasing countenances.

The chief distinction between the natives and the Malays of the coast seems to be, that the former are fairer and stronger. The original clothing is made of the inner bark of trees, as in Otaheite; but the dress of the Malays consists of a vest, a robe, and a kind of mantle, with a girdle, in which is the *cees*, or dagger. The villages are commonly on hills, and surrounded with fruit trees, the *balli*, or common hall, being in the centre. The houses are of wood and bamboos, covered with leaves of palm, standing on pillars, and scaled by a rude ladder. The furniture is of coarse simple, and common food rice: sago, though common, being less used than in the islands farther to the east. The horses are small, but well made, and hardy: the cows and sheep also diminutive, the latter probably from Bengal. Here are also found the elephant, rhinoceros, hippopotamus, tiger, bear, otter, porcupine, deer, wild hog, civet cat, with many varieties of the monkey. The buffalo is employed in domestic labour. Among birds, the Sumatran or Argus pheasant is of distinguished beauty. The jungle fowl, or wild poultry, also appear; and there is a breed in the south of remarkable height, likewise found in Bantam, on the west of Java, which also gives name to the well known small breed. Insects of all kinds swarm, particularly the destructive termites. The most abundant article is pepper, the object of the British settlement; being produced by a climbing plant resembling a vine. The white pepper is procured by stripping the outer husk from the ripe grains. Camphor is another remarkable vegetable product; and cassia, a coarse kind of cinnamon, is found in the central parts of the country. Rattans are exported to Europe for walking canes. "The silk cotton (*bombax ceiba*) is also to be met with in every village. This is, to appearance, one of the most beautiful raw materials the hand of nature has presented. Its fineness, gloss, and delicate softness, render it to the sight and touch much superior to the labour of the silk worm: but, owing to the shortness and brittleness of the staple, it is esteemed unfit for the reel and loom, and is only applied to the unworthy purpose of stuffing pillows and mattresses. It grows in pods from four to six inches long, which burst open when ripe. The seeds entirely resemble the black pepper, but are without taste. The tree is remarkable from the branches growing out perfectly straight and horizontal, and being always three, forming equal angles at the same height: the diminutive shoots, likewise grow flat; and the several gradations of branches observe the same regularity to the top. Some travellers have called it the Umbrella tree, but the piece of furniture called a dumb waiter, exhibits a more striking picture of it \*." The commerce is chiefly with Hindostan and China. The Malays excel in gold and silver filagree, and in weaving silk and cotton; but the manufactures are imperfect, and the sciences little cultivated. Besides the Malays, several languages are spoken, which seem however to have a manifest affinity among themselves, and with that widely diffused speech which may be called the Polynesian, as it is diffused through innumerable islands in the Pacific. Even the rudest tribes of Sumatra and the other Asiatic isles, as far as the utmost bounds of Polynesia, display a certain degree of civilization. The panjeran or prince presides over many magistrates; but his government is limited, his power being con-

\* Marten, 107.



fined by his poverty. Laws are unknown, the chief rendering judgment according to customs. Most crimes are compensated by money, murder itself not excepted. The difficulties attending marriage form an exception to the general customs of uncivilized countries, and the general chastity seems remarkable. The celebration is commonly in the balli, or village hall, and is accompanied with dances and songs. Combats of cocks and quails are among the most favourite amusements, together with dances, dice, and other games. The use of opium is extensive, but rarely leads to other excesses. What is called a muck, by the natives *mongamo*, rather proceeds from revenge, or a sense of oppression, than from intoxication. The Christian religion is unknown in Sumatra, the missionaries having unaccountably neglected this large island. The kingdom of Acheen in the N.W. extremity of the island carries on a considerable trade with the coast of Coromandel. The natives are more stout and tall, and of a darker complexion than the other Sumatrans.

Several small isles encompass Sumatra. Banca is particularly celebrated for its tin\*. Of Billeton little is known; nor of the isles that lie between Sumatra and Malacca, called Pitti, and other names, with the common addition of *Pulo*, which in these seas appears to imply an island, being a Malay term. On the W. the Nassau or Poggy isles have been lately noted for their inhabitants, dissimilar from their neighbours, and approaching the Otaheitans in the amiable simplicity of their manners, as well as in their personal appearance, while their colour, like that of the Malays, is light brown or copper†. Java is not only an extensive island, about 650 B. miles in length by about 100 of medial breadth, but is remarkable for the city of Batavia, the celebrated capital of the Dutch possessions. 'This island, like the former, abounds with forests, and presents an enchanting verdure.' It seems also intersected by a ridge of mountains, like a spine, pervading its length‡. Batavia is strongly fortified with walls, and a citadel towards the sea. There are many canals about four feet in depth, and the town is large and well built of stone. This metropolis of the oriental archipelago presents many nations and languages; and the Chinese constitute the greater part of the inhabitants, being contented, for the sake of gain, to forget the tombs of their ancestors, and the laws of their country against emigration. The Malay language, the French of the east, is here universally understood. The streets are planted with large trees, which practice, with the Dutch canals, probably contributes to the unhealthiness of this spot. The heat is not so intense considered in itself, being between 80° and 86°, as from the low situation of the town, and the murky exhalations from the bogs, canals, and a muddy sea, whence from nine o'clock till four it is impossible to walk out. The sun being nearly vertical, rises and sets about six throughout the year; but the nocturnal repose is infested by mosquitos. In the evening, from six to nine, parties are formed, and intemperance assists the poison of the climate. The water is also of a bad quality. The air is so unwholesome, from fetid fogs and other causes, that dysenteries and putrid fevers destroy prodigious numbers; and of three settlers it is rare that one outlives the year. The rainy season begins with December and lasts till March. Crocodiles abound in the rivers, as in most of

\* The industrious translator of Stavorinus, vol. i. p. 337, says that these mines were only discovered in 1710 or 1711, and though the Dutch receive about three millions of pounds weight, the vein seems inexhaustible.

† Af. Ref. vi. 77.

‡ Thunberg, ii. 213. For a tolerable map of Java see the voyage of Stavorinus, 1793, v. 1012, where there is also a long and minute description of the island.

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\* Outlines, iv. 31. See, ib

† See Forest, 170.

‡ Premier Voyage au tout du 5 Pennant's Outlines, iv. 32



the oriental isles. Java is divided into three or four principalities, the chief being the emperor of Surikarta. The products resemble those of Sumatra; and the existence of the poisonous tree, which has supplied Dr. Darwin with a highly poetical description, appears to be completely confuted.

The small isle of Madura, on the N. of Java, had an independent prince, whose sufferings under the tyranny of the Dutch have been repeated by Mr. Pennant\*. The Dutch phlegm seems to have led them to greater cruelties than the fanaticism of the Portuguese or Spaniards; and it is to be regretted that the English had not retained for some years the possession of the Dutch settlements, to convince the Batavians, by example, that conquests may be better maintained by lenity than by sordid cruelty. The isle of Balli seems only remarkable for furnishing slaves, cotton, yarn, and pickled pork†. Of Lombok, Sumbava, and Florez, little is known. Timor was discovered in 1522 by the companions of Magalhaens, who found in it alone the white sandal wood‡. The Portuguese after a long struggle effected a settlement, but were expelled by the Dutch in 1613, who regard this isle as a kind of barrier of the spice trade. Timor is nearly 200 miles in length, by 60 in breadth; and the inhabitants are esteemed the bravest in the Oriental Archipelago.

## II. BORNEO.

This island is reputed the largest in the world; and even after recent discoveries seems only to yield to New Holland, which, as it rivals Europe in size, may more properly be regarded as a continent. Borneo seems clearly to be the Greater Java of Marco Polo, which he says is 3000 miles in circuit, as it is about 900 miles in length, by 600 at its greatest breadth.

The interior parts of the great island of Borneo are little known, though a considerable river flows from the centre of the country almost due south, forming the harbour of Bender Massin; and the names of several villages on the banks are laid down by D'Anville. "The far greater part of Borneo next to the sea, especially the northern side, consists of swamps, covered with forests of trees of numberless species and great sizes, which penetrate for scores of miles towards the centre of the island. The unstable muddy flats are divided by rivers, which branch into multitudes of canals, and are the only roads into the interior parts. Lofty mountains are said to rise in the middle of the island: many are volcanic, and often occasion tremendous earthquakes§." The houses are often built on posts fixed in rafts, which are moored to the shore, and may be moved from place to place according to the convenience of the inhabitants. The coasts are held by Malays, Moors, Macassars from Celebes, and even Japanese. The natives in the interior are blacks, with long hair, of a middle stature, feeble and inactive; but their features are superior to those of negroes. European settlements have been unsuccessful, the adventurers having been massacred. Pepper abounds in the interior country, with the gum called the dragon's blood,

\* Outlines, iv. 31. See, lh. 28, the massacre of 15,000 Chinese in 1740.

† See Forest, 170.

‡ Premier Voyage au tout du Monde par Pigafetta. Paris, an 9, p. 213, 214.

§ Pennant's Outlines, iv. 32.

camphor, and sandal wood. Edible birds' nests are abundant. Gold is found in the interior country; where there are also said to be diamonds, but inferior to those of Golconda. The Orang Outang abounds. The natives are called Biajos, but their language has not been explained: they are said to offer sacrifices of sweet-scented wood to one supreme beneficent deity; and the sentiments of piety, or, in other words, of delightful gratitude, are accompanied by laudable morals. The Biajos come down the great river of Benjar to the port of Masfeen in rude boats, with gold dust and other articles, the Moors called Banjareens being the factors. These Biajos are tattooed blue, with a small wrapper about the loins. The chiefs extract one or two of the fore teeth, substituting others of gold; and strings of the teeth of tigers, a real badge of knighthood, or courage, are worn round the neck. The town called Borneo on the N.W. consists of about 3000 houses, floating as above described: it was greatly frequented by the Chinese, who probably continue to be the chief traders to Borneo.

This large island is surrounded with many small isles, which, from their relation to this comparative continent, may be termed Bornean islands. Such is the group of Sooloo in the N. E.; of which Mr. Dalrymple, who visited them, has given a good account. They are rich in pearls, for which they were noticed in the time of Magalhaens. The chief isle is thirty miles by twelve; the natives rather polished, the government being vested in a sultan, for the Mahometan religion extends thus far\*. The isle of Tawee lies between the Sooloos and Borneo. At the northern extremity is Banguet, not far from Balabac, the most S. W. of the Philippines; and Balambangan, remarkable for a settlement attempted by the English in 1773, but evacuated, either on account of the unhealthy climate, or of a Dutch invasion. To the W. of Borneo are the groups of Natuna and Anamba little visited or known; an observation applicable also to several isles in the S. of Borneo; but Pulo Laut, which by D'Anville is represented as an isle, is by later discoveries attached to the continent of Borneo.

### III. THE MANILLAS, OR PHILIPPINE ISLANDS.

This large group was discovered by Magalhaens in 1521, who called them the Archipelago of St. Lazarus; but they were afterwards styled the Philippines, in honour of that infamous tyrant Philip II. of Spain.

Luzon is the largest and most important of these isles, being more than seven degrees, or near 500 British miles in length, by about 100 of medial breadth. The jealousy of the Spaniards has prevented the acquisition of precise knowledge concerning this important island, which is pervaded in its length by a chain of high mountains towards the east. Gold, copper, and iron are among the certain products; and the soil is reported to be uncommonly fruitful. The natives, who are of a mild character, are called Tagals, like all those of the Philippines, and seem of Malay origin†. They are tall and well made, wearing only a kind of shirts with loose drawers; but the dress of the women is chiefly a large mantle, and their black and beautiful hair sometimes reaches the ground, the complexion being a deep tawny. The houses are of bam-

\* See also the Voyages of Sonnerat and Forest.

† Sonnerat, ii. 108.

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\* Sonnerat, ii. 116. For  
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† Pennant, iv. 86.

600 covered with palm leaves, raised on pillars to the height of eight or ten feet. The chief food is rice, and salted fish. There are many lakes in the isle of Luzon, the most considerable being that which gives source to the river of Manila. Several volcanoes occur, and earthquakes are not unknown. The cotton is of peculiar beauty, and the sugar cane and cocoa trees are objects of particular culture. The city of Manila is well built and fortified, but a third part is occupied by convents: the number of Christian inhabitants is computed at 12,000. Between this city and Acapulco, nearly in the same parallel on the W. of Mexico, was conducted a celebrated commerce through a space of about 140 degrees, or about 8,400 g. miles, more than one third of the circumference of the globe. The Manila ships, or galleons, were formerly of great size, but latterly smaller vessels have been used. The city of Manila was taken by the English in 1762. The Chinese were here numerous till the beginning of the 17th century, when the Spaniards committed a terrible massacre of that industrious people. In 1769 it is said that they were again expelled from all these isles, by the bigotry of the governor: since which time there has been a great decline in industry and produce.

Next in size is Mindanao, a beautiful and fertile island, the chief Spanish settlement being at Sambuang in the S. W \*. This island is in general mountainous; but the vales consist of a rich black mould, watered with the purest rivulets. The Lano is a large inland lake, about 60 miles in circumference. Horses and buffaloes have here multiplied to a surprising degree. In the south there is a volcano of constant eruption, which serves as a sea mark.

The other chief Philippines are Pulawain, Mindoro, Pani, Buglas or isle of Negroes, Zebu, Leyt or Leita, and Samar. On the E. of Zebu is the small isle of Macian, where the celebrated navigator Magalhaens was slain. The other little islands might be counted by hundreds. In general, this grand and extensive group presents many volcanic appearances; such as lava, volcanic glass, sulphur, and hot springs. These isles present wild boars, deer, and useful animals of various kinds; and among vegetables the bread fruit must not be forgotten, which first appears on the eastern coasts of Sumatra, and thence extends its benefits through innumerable islands in the Indian and Pacific oceans.

#### IV. THE CELEBEZIAN ISLES.

CELEBEZ is an island of great and irregular length, more than 600 British miles, but divided into various portions by great bays, so that the breadth is commonly not above 60 British miles. This island is lofty and mountainous, especially towards the centre, and there are several active volcanoes. Though the Asiatic isles abound in sublime and beautiful scenery, this is depicted as exceeding them all †. Rivers abound, rising in the high mountains, and precipitating down vast rocks, amidst a sylvan scene of lofty and singular trees. The Portuguese obtained a settlement near Macassar in the S.W., being favoured

\* Sonnerat, ii. 116. For an ample and curious account of this island the reader may consult Forrest's Voyage to New Guinea. The Marasuras, or black natives, are sold with the land.

† Pennant, iv. 86.

by the king of that region, but were expelled by the Dutch in 1663, who continue to control the island, the Chinese alone being permitted to trade. The natives, commonly called Macassars\*, often degrade their courage in the quality of freebooters, attacking vessels with surprising desperation, and often with lances, or arrows poisoned with the juice of the notorious tree called Upas. Their houses are raised on pillars, as usual, on account of the rainy season, or W. monsoon, from November till March. The Celebezan group might aptly be termed the Isles of Poison, being full of poisonous trees and plants; though the noted upas be exaggerated and ascribed to Java, where it seems less known. Nature has thus contrasted the salutary productions of the spice islands with the most pernicious proofs of her power. This large island having been, like Borneo, little explored, there is a great deficiency in its natural history. The inhabitants are said to cultivate great quantities of rice.

Around Celebez are many small isles, as Sanguy in the N., the Shullas and Peling in the E., with Boutan and Sala in the S. and some of smaller riote in the W. Even the smallest isles are mostly inhabited, and governed by chiefs. In Sanguy and some others there are small Dutch garrisons, as advanced guards to protect the Spice Islands. Boutan is probably still ruled by a Mahometan sultan.

#### V. THE SPICE ISLANDS, INCLUDING THE MOLUCCAS.

THE Moluccas, originally and strictly so termed, are only five small islands on the W. of Gilolo; namely, TERNAT, TIDORE, MOTIR, MAKIAN, and BAKIAN or BATCHIAN†; but as the kings of the Moluccas have possessed territory in Gilolo and other adjacent isles, and as the term *Moluccas* is considered as synonymous with that of *Spice Islands*, the appellation has been extended. The Moluccas of D'Anville include all the islands in the oriental archipelago, except those of Sunda and the Philippines: but this extension is objectionable, as leading to vague ideas and confused description; and it seems preferable to include under the name of Spice Islands those from Mortay in the N. to Banda in the S., and from Mysol in the E. to Bouro and Oubi in the W. Thus the chief Spice Islands will be GILOLO, CERAM, and BOURO, with MORTAY, OUBI, MYAOL, BOURO, that of AMBOYNA, and the group of BANDA, with such small isles as approximate nearer to these than to the Celebezan group, or Sumatran chain. In this description are specially included the five celebrated isles, originally and peculiarly termed the Moluccas.

GILOLO is of considerable extent; but in irregularity of form similar to Celebez. The length is about 230 British miles; the breadth of each limb seldom above 40. The shores are low; the interior rises to high peaks. Gilolo is said to have been once governed by one sovereign, a sheref from Mecca; but the sultans of Ternat and Tidore seem now to share this large isle betwixt them‡; a circumstance which adds to the propriety of including Gilolo in the same description with the Moluccas. One of the chief towns is Tatany, situated on a point or small promontory of the eastern limb, faced with precipices, so as to

\* The most powerful people are the *Bonians*, on the bay of Boni, called *Buggeffe* by English seamen, and by other nations *Bougine*. Stavrinus, ii. 181.

† Pigafetta, 167.

‡ Pennant, iv. 198.

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be only accessible by ladders. This isle abounds with oxen, buffaloes, goats, deer, and wild hogs; but the sheep are few. The bread fruit is frequent in Gilolo, with the sago tree. The natives are industrious, particularly in weaving, but their exertions are suppressed by Batavian jealousy.

CERAM is another island of considerable size, being about 190 British miles in length by 40 in breadth; low towards the shore, but with inland mountains. Mr. Forrest specially mentions that Ceram produces clove trees; and there are large forests of the sago tree, which form a considerable article of export, yet this large island has been little explored, and is almost unknown.

As in geographical description the size of an island is a leading feature, the next mention must be BOURO, about 90 miles in length, by 50 in breadth. This isle was nominally subject to the king of Ternat; but in 1660 the Dutch built a fort, and, though they burned the exterior woods, seem to have improved the industry of the inhabitants\*. The civet weasel is found here, and the curious hog called babiroussa. The isle of Bouru rises suddenly from a deep sea, being encompassed as with a wall. The interior mountains are so lofty that they may sometimes be descried at the distance of twenty-eight leagues. Green ebony, and a kind of iron wood, are mentioned among the trees; and it is probable that the clove, and perhaps the nutmeg, defy, in the mountain recesses, the wild avarice of man.

Of the other large islands, Bakian or Batchian will be described with the Moluccas strictly so called. Of MORTAY, MYSOL, (Mixoal or Michoal,) and OUBI, little is known. Mortay is a beautiful isle, but thinly inhabited, though full of sago trees, which are cut by the people of Gilolo; and is subject to the king of Ternat. MYSOL, the most eastern of this group, is of a triangular shape, with a bold shore. The villages are built in the water upon posts; and there are picturesque forests visited by the birds of paradise, which seem to migrate from Papua, and are caught in considerable numbers. These romantic and beautiful birds strictly belong to Papua, or New Guinea, but their flight extends over most of the Spice Islands, where they always descend as from heaven, and, as the natives believe, float in aromatic air. OUBI abounds in cloves, and the Dutch have a small fort on the west side; but the inhabitants are chiefly fugitive slaves from Ternat.

But the most celebrated and important islands of this group still remain to be described. The MOLUCCAS, strictly so called, in the western extremity; and AMBOYNA and BANDA in the south. The Little, or proper Moluccas, as already mentioned, are TERNAT, TIDORE, MOTIR, MAKIAN, and BATCHIAN. In 1510 they were visited by Portuguese navigators from the west; and the fame of the discovery was one of the chief inducements to the first circumnavigation of the Spaniards, conquered by Magalhaens, a Portuguese commodore. These two great maritime nations afterwards contested this precious property; but the Moluccas were finally resigned to the Portuguese, who were supplanted by the Dutch about the year 1607. The English also claiming this opulent commerce, a treaty was signed in 1619, declaring the Moluccas, Amboyna, and Banda, common to both: the English to have one third of the produce, and the Dutch two thirds; each con-

\* Pennant, iv. 174.



tributing a similar proportion to defend the islands from invaders \*. But in the short course of three years the Dutch, actuated by their insatiable avarice, determined, by the most diabolical means, to free themselves from all competitors. They forged a plot of the English against their lives and liberties, and put them to death by the most exquisite tortures that hell itself could invent.

The clove is said to have abounded particularly in Makian, but the growth was afterwards confined by the Dutch to Amboyna. The nutmeg specially flourished in the group of Banda; and the Romans appear to have known the clove, but not the nutmeg, which seems to have been brought to Europe by the Mahometans. The largest of the Little Moluccas is BATCHIAN, being governed by a sultan, who is likewise sovereign of Oubi and Ceram, with Goram, a little isle S. E. of Ceram, reputed the most eastern boundary of the Mahometan faith. This monarch has a pension from the Dutch, either for the destruction or supply of nutmegs, but is otherwise little subservient. Batchian rises into woody hills; and on the shores, as in most isles of this archipelago, there are prodigious rocks of coral, of infinite variety and beauty. Makian is a small isle at a greater interval, to the N. of Batchian, than appears between the other Moluccas, and rises like a high conic mountain from the sea. This was regarded as the chief Dutch settlement before Amboyna became the metropolis of the Moluccas. Next is MOTIR, formerly, as an old English writer says, the seat of Venus and voluptuousness. The most distinguishing of the proper Moluccas are TIDORE and TERNAT. While Portugal was united to Spain the Dutch were defeated near Tidore in 1610 by the Spanish admiral Sylva; but by the assistance of the king of Ternat the Batavians seized the fort. In Tidore there are twenty-five mosques; and the sultan, as already mentioned, possesses also the south of Gilolo, and claims tribute from Mysol.

TERNAT is the most northern and most important of the Moluccas, though it scarcely exceed twenty-four miles in circumference. The sultan controls Makian and Motir, with the north of Gilolo, Mortay, and even some Celebezan isles, and part of Papua, whence he receives a tribute of gold, amber, and birds of paradise. In 1638 the Batavians formed an alliance with the king of Ternat and the lesser princes, which has been repeatedly renewed; but garrisons are established to enforce the observance, and the sultans of Ternat and Tidore are watched with great attention. Ternat consists chiefly of high land, abounding with streams, which burst from the cloudy peaks; and there is a volcano, which displayed great force in 1693. The chief quadrupeds, are goats, deer, and hogs, and the birds are of distinguished beauty, particularly the kingfisher, clothed in scarlet and mazareen blue, called by the natives the Goddess. In Ternat the boa-serpent is sometimes found, of the length of thirty feet; and by its power of suction and constriction is reported sometimes to swallow even small deer.

Equally distinguished are the most southern spice islands of Amboyna and Banda, cloves being now restricted, so far as Dutch avarice could effect, to Amboyna, and nutmegs to Banda. The governor of Amboyna makes an annual progress throughout the Spice Islands, to see that treaties are observed, and suppress any new object of jealousy. Amboyna was discovered by the Portuguese about 1515, but was not seized till 1564; and was conquered by the Dutch about 1607. This

\* Rymer's Fœdera, xvil. 170.

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\* An account of the Sp  
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§ Asiatic Register, 1800.

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celebrated isle is about 60 B. miles in length from N. to S., and on the west side there is a large bay, which divides it into two limbs or peninsulas. On the eastern side is another bay, with a bad harbour, where the Portuguese erected their chief fortress Victoria. The town of Amboyna, the capital of the isle, stands near the S.W. extremity and is neatly built; the houses, on account of the frequent earthquakes, seldom exceed one floor. The face of this island is beautiful, woody mountains and verdant vales being interspersed with hamlets, and enriched by cultivation\*. The clove tree grows to the height of about forty or fifty feet, with spreading branches and long pointed leaves. In deep sheltered vales some trees will produce thirty pounds weight annually, the chief crop being from November to February. The soil is mostly a reddish clay, but in the vales blackish and sandy. When Amboyna was recently seized by the English†, it was found, with its dependencies, to contain 45,252 souls, of which 17,813 were Protestants, the rest Mahometans, except a few Chinese and savages. The Dutch are tolerably polished, this being the next settlement to Batavia in wealth and consequence. The natives cannot be praised, they differ little from other Malays; and when intoxicated with opium will commit any crime. The dress is a loose shirt, or frock, of cotton cloth; and the chiefs are called rajas. Cattle, grain, &c. are imported from Java. The Dutch discouraged the growth of indigo, lest the natives should become rich and rebellious; but the sugar and coffee are excellent, and among many delicious fruits is the mangoes of Hindostan. About eleven years ago nutmegs were permitted to be cultivated in Amboyna, Banda not furnishing a sufficient supply. The chief animals are deer and wild hogs, and among the birds is the casowary. The most curious woods are brought from Ceram.

BANDA, or LANTOR, is the chief isle of a group which comprises six or seven others; it does not exceed eight B. miles in length, W. to E., and the greatest breadth at its eastern extremity may be five miles. The nutmeg tree is the principal object of cultivation in these isles; and flourishes not only in the rich black mould, but even amidst the lava of Gonong, which is the highest isle, the summit being 1940 feet above the sea. When the English seized these isles in 1796, the annual produce was about 163,000 pounds of nutmegs and 46,000 pounds of mace‡. The nutmeg tree grows to the size of a pear tree, the leaves resembling those of the laurel, and bears fruit from the age of ten to one hundred years. The nutmeg, when ripe on the tree, has both a very curious and beautiful appearance; it is about the size of an apricot, and nearly of a similar colour, with the same kind of hollow mark all round it; in shape it is somewhat like a pear; when perfectly ripe the rind over the mark opens, and discovers the mace, of a deep red, growing over and covering in part the thin shell of the nutmeg, which is black§.

\* An account of the Spice Islands, since they have been in the possession of Great Britain. Asiatic Register, 1800, p. 200. There was a most violent earthquake in 1755.

† The islands of Amboyna and Banda were taken without resistance in February and March, 1796, by the English admiral Rainier.

‡ The hurricane and earthquake, 1778, almost annihilated the nutmeg trees in Banda, so that the Dutch have become the dupes of their own avarice. From 1796 to 1798 the English East India Company imported 817,312lb. cloves, 93,732lb. nutmegs, 46,730lb. mace, besides private trade, amounting to about a third part of the above. Stavroinus, ii. 418.

§ Asiatic Register, 1800, p. 216.

The ground being chiefly occupied with these precious plantations, cattle, grain, &c. are imported from Batavia; and the Chinese merchants carry European articles even to Papua or New Guinea. The inhabitants of the Banda isles were found to be 5763. The English were expelled from Lantor, and Rohn, or Pulo Rohn, prior to the massacre of Amboyna; but seized the whole Spice-Islands in 1796, and restored them to their Batavian masters by the treaty with France, 1801.

## AUSTRALASIA.

**A**USTRALASIA, as already explained, contains the following countries,

1. The central and chief land of New Holland, with any isles which may be discovered in the adjacent Indian ocean, twenty degrees to the W., and between twenty and thirty degrees to the E., including particularly all the large islands that follow:

2. Papua, or New Guinea.
3. New Britain, and New Ireland, with the Solomon Isles.
4. New Caledonia, and the New Hebudes.
5. New Zealand.
6. The large island called Van Diemen's Land, recently discovered to be separated from New Holland by a strait, or rather channel, called Bass's strait.

### I. NEW HOLLAND.

Some suppose that this extensive region, when more thoroughly investigated, will be found to consist of two, three or more vast islands, intersected by narrow seas. However this be, the most recent and authentic charts still indicate New Holland as a country fully entitled to the appellation of a continent. The length from E. to W. is about 43 degrees of longitude, in the medial latitude of  $25^{\circ}$ , that is about 2,340 g. miles, or 2,730 British. The breadth from N. to S. extends from  $11^{\circ}$  to  $39^{\circ}$ , being 28 degrees, 1,680 g. miles, or 1,960 British. Europe, the smallest of the ancient continents, is supposed to be about 3,300 B. miles in its utmost length, and its greatest breadth 2,350, so that Mr. Pennant rather exaggerates when he assimilates the size of Europe and New Holland, the latter being a quarter less than the former. But the proximity of so many large islands recompenses this defect; and the whole of Australasia will probably be found greatly to exceed the European continent. It must at the same time be remembered that New Holland may be discovered to consist of two or more islands, so that Australasia is not admitted as a new continent, but merely as a new division of the globe; in which view this and Polynesia may be termed maritime divisions, while the four ancient quarters are strictly terrene.

Although the northern parts of Papua were probably not unknown to the Chinese, yet there is no shadow of evidence that they had discovered New Holland; there is therefore room to believe that the first civilized people to whom it was disclosed were the Spaniards or Portuguese, the

earliest European map, now lodged in a considerable portion known to the Spaniards or discovery seems

The Portuguese by the learned press between the years month of October Hartog. The north other Dutch navigation honour of Anthony. In like manner Car discovered in 1628.

In 1642 that celestial ships, performed along the land of Van Diemen. It would be foreign which preceded the from the superior amount to a new discovery.

The eastern coast appearing of great importance of the king of Great Britain it being difficult to submit to that punishment was at length preferred the 30th January 1788 following year for the advantages to what colony, it was immediately another excellent in Port Jackson, on this settlement is now in the world, extending creeks or coves.

Difficulties with the attended the new colony into the woods. For colony till 1797, the held an eminent situation around the colony and Hawksbury, and were found grazing lost for seven years, a recent accounts seem The mode of cultivation and there is room to deficient in the usual

INHABITANTS.] proper to offer a brief new continent, as it is

• De Brosses

earliest European navigators in this portion of the globe. An ancient map, now lodged in the British museum, has been thought to evince that a considerable portion of the coast now called New South Wales was known to the Spaniards or Portuguese; but the precise epoch of the map or discovery seems uncertain.

The Portuguese being supplanted by the Dutch, the latter are regarded by the learned president Des Broffes as the chief discoverers of Australasia, between the years 1616 and 1644\*. The first discovery he dates in the month of October 1616, when the western extremity was explored by Hartog. The northern part, called *Diemen's Land*, was disclosed by another Dutch navigator, named Zeachen, who bestowed the appellation in honour of Anthony Van Diemen, governor general in the East Indies. In like manner *Carpentaria* was named from general Carpenter, being discovered in 1628.

In 1642 that celebrated navigator Tasman, leaving Batavia with two ships, performed almost a circuit of Australasia, and discovered the southern land of *Van Diemen*, with New Zealand, and some isles of less consequence. It would be foreign to the present purpose to detail the other discoveries which preceded the voyages of Cook in 1768, 1772, and 1776, which, from the superior amplitude and accuracy of the details, may be said to amount to a new discovery.

The eastern coast having been carefully examined by Cook, and justly appearing of great importance, was formally taken possession of in the name of the king of Great Britain, 1770. On the close of the American war, it being difficult to select a proper place of transportation for criminals sentenced to that punishment by the laws of their country, this new territory was at length preferred in 1786, and the first ship sailed from Spithead on the 30th January 1787, and arrived on the 20th of the same month in the following year†. Botany bay being found to be a station of inferior advantages to what were expected, and no spot appearing proper for the colony, it was immediately resolved by governor Phillip to transfer it to another excellent inlet, about twelve miles farther to the north, called Port Jackson, on the south side of which, at a spot called Sidney Cove, this settlement is now fixed. Port Jackson is one of the noblest harbours in the world, extending about fourteen miles in length, with numerous creeks or coves.

Difficulties with regard to subsistence and some unexpected misfortunes attended the new colony, the sheep being stolen, and the cattle wandered into the woods. For a minute account of the progress of this interesting colony till 1797, the reader may consult the work of Mr. Collins, who held an eminent situation in the establishment. A space of about fifty miles around the colony had then been explored, and two rivers called Nepean and Hawkesbury, and some mountains, had been discovered. The cattle were found grazing in a remote meadow, in 1795, after they had been lost for seven years, and had increased to a surprising degree. The most recent accounts seem to authenticate the flourishing state of the colony. The mode of cultivation has been improved, coal and rock salt discovered; and there is room to expect that this wide territory will not be found deficient in the usual riches of nature.

[INHABITANTS.] These historical outlines being premised, it will be proper to offer a brief and indeed necessarily defective description of this new continent, as it is conceived to be in its original state. From the

\* De Broffes, l. 496.

† Collins, l. p. 2.

accounts of various navigators, there is room to infer that this extensive tract is peopled by three or four races of men, those observed in the S.W. being described as different from those in the N. \*, and both from those in the E., with whom alone we are intimately acquainted. These are perhaps in the most early stage of society which has yet been discovered in any part of the globe. They are merely divided into families, the senior being styled Be-ana, or Father. Each family or tribe has a particular place of residence, and is distinguished by adding *gal* to the name of the place; thus the southern shore of Botany Bay is called Gwea, and the tribe there Gwea-gal. Another tribe, numerous and muscular, has the singular prerogative of exacting a tooth from young men of other families, the sole token of government or subordination. No religion whatever is known, though they have a faint idea of a future existence, and think their people return to the clouds, whence they originally fell. They are of a low stature, and ill made; the arms, legs, and thighs being remarkably thin, perhaps owing to their poor living on fish, the only food of those on the coast, while a few in the woods subsist on such animals as they can catch, and climb trees for honey, flying squirrels, and opossums†. The features of the women are not unpleasant, though approaching to the negro. The black bushy beards of the men, and the bone or reed which they thrust through the cartilage of the nose, gives them a disgusting appearance; which is not improved by the practice of rubbing fish oil into their skins, as a protection from the air and muskitoes, so that in hot weather the stench is intolerable. They colour their faces with white or red clay. The women are marked by the loss of the two first joints of the little finger of the left hand, as they were supposed to be in the way when they coiled their fishing lines. It is however not improbable that this practice, and the extraction of a tooth from the boys, may be mere initiations, rude lessons that they may learn to bear pain with apathy. The children are seldom disfigured except by accidents from fire; and their sight is surprisingly acute. Some are nearly as black as African negroes, while others exhibit a copper or Malay colour; but the hair is long, not woolly like the African. Their noses are flat, nostrils wide, sunk eyes, thick brows and lips, with a mouth of prodigious width, but the teeth white and even. "Many had very prominent jaws; and there was one man who, but for the gift of speech, might very well have passed for an orang-outang. He was remarkably hairy; his arms appeared of an uncommon length; in his gait he was not perfectly upright; and in his whole manner seemed to have more of the brute, and less of the human species about him, than any of his countrymen ‡."

The huts are most rudely constructed, of the bark of trees, in the form of an oven, the fire being at the entrance. Here they sleep promiscuously, if not interrupted by their frequent enmities and assassinations. Fish are killed with a kind of prong, or taken by the women with lines of bark and hooks of the mother of pearl oyster, rubbed on a stone till the proper form be obtained. The fish are often broiled on a fire laid on sand in the canoe. Beasts are taken in a kind of toils. Caterpillars and worms are likewise articles of food. The canoes are made of bark extended on a timber frame.

\* Yet the description of our great navigator Dampier, who visited this part in 1688, presents a great similarity with that of the natives in our colony near Port Jackson.—(Vol. i. p. 462.)

† Collins, i. 350.

‡ Collins, i. 354.

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† Collins, i.

These poor savages are the abject slaves of superstition, believing in magic and witchcraft and ghosts; they have also spells against thunder and lightnings, and pretend to foretell events by the meteors called falling stars. They have not only personal property in their weapons and fishing tackle, but some are supposed hereditary proprietors of certain spots, perhaps assigned as rewards for public services, or acts of great bravery. They have names for the sun and moon, some few stars, the Magellanic clouds, and the milky way. Young people are buried, but those who have passed the middle age are burnt; a rude tumulus being erected by way of tomb.

LANGUAGE.] Of the language Mr. Collins has given an ample vocabulary, and it is reported to be grateful to the ear, expressive and sonorous, having no analogy with any other known language; but the dialects of the various regions seem entirely different. Whether these people be remains of aboriginal tribes from the most southern extremities of Asia, or have passed from Madagascar and the eastern shores of Africa, are matters of future discovery and investigation.

CLIMATE AND SEASONS.] From its situation on the southern side of the equator, the seasons are like those of the southern part of Africa and America, the reverse of those in Europe; the summer corresponding with our winter, and the spring with autumn. Mr. Collins found the weather in December very hot, but the climate was allowed to be fine and salubrious, the rains were heavy, appearing to fall chiefly about the full and change of the moon; and at intervals there were storms of thunder and lightning. In Norfolk island there is what may be called a rainy season, from February to August. As the south is in this hemisphere the region of cold, there must be great difference in the temperature of this wide continent; which may also be affected as usual by chains of mountains, and other circumstances yet undiscovered.

FACE OF THE COUNTRY.] It would be idle to attempt any delineation of the general aspect of this country. The small portion known seems hilly, but not mountainous, partly covered with tall trees clear from underwood; which last however covers extensive tracts towards the shores, in which large swamps also occur\*. The soil around Botany Bay is black and fat, and fertile of plants, whence the name arose; but these favourable appearances were counteracted by great disadvantages. Considerable quantities of maize and wheat have since been raised, particularly on Norfolk island: and it is to be hoped that when experience has indicated the proper means, this may be rendered a productive country.

RIVERS, LAKES, AND MOUNTAINS.] Concerning the rivers, lakes, and mountains of New Holland there is little information. A chain of mountains is said to run N. and S. between fifty and sixty miles inland, but not easily accessible, on account of numerous deep ravines. Basaltic columns often appear; and in Howe island they rise to such a height as to be visible at the distance of twelve leagues.

ZOOLOGY.] This wide country presents a peculiarity in the animals, being mostly of the opossum kind, and leaping habitually upon the hind legs: the chief in size is the Kangaroo. The native dogs are of the chacal kind, and never bark; they are of two colours, black or white with tinges of red, and some are very handsome†. Among the few other quadrupeds yet described are weazels and ant-eaters, with that singular

\* Pennant's Outlines, iv. 109; but this excellent naturalist seems prejudiced against the country and the colony.

† Collins, i. 507.



animal the duck-billed platypus, in which nature seems to delight in transgressing her usual law, the jaws of a quadruped being elongated into the complete bill of a bird. Among the birds are the brown eagle, several falcons, and many elegant parrots; there are also bustards and partridges, with some pigeons. A new kind of cassowary must not be omitted, said to be seven feet in length\*: it is not uncommon, and the flesh tastes like beef. Among the aquatic birds are the heron, and gigantic pelicans. There are also peculiar ducks and geese; and the black swan is a rare progeny of the new continent. "It is in size superior to the white. The bill is of a rich scarlet; near the tip is a small yellow spot. The whole plumage of the most intense black, except the primaries and secondaries, which are white, the eyes black, the feet dusky: it is found in Hawksbury river, and other fresh waters near Broken Bay, and has all the graceful actions of the white kind †."

The tortoises, called green turtle, abound in the isles of Norfolk and Howe; and likewise appear on the coast of New Holland. There are several lizards and serpents. Of the fish may be named dolphins, porpoises, and a singular amphibious kind which leaps like a frog, by the help of strong breast fins; so that nature has not only here blended the bird with the quadruped, but brought fish upon land. The blue crab, of an ultramarine colour, is of exquisite beauty.

MINERALOGY.] As the interior mountains of this region have not been explored, little can be said concerning the mineralogy. In 1797 a ship from Bengal being wrecked on the southern shore, of seventeen men only three reached the settlement, after a journey of eighty days; on their way they discovered immense strata of coal, which may prove far more valuable than mines of gold ‡.

## II. PAPUA, OR NEW GUINEA.

THIS country is one of the most interesting in Australasia, as partaking of the opulence of the Moluccas, and their singular varieties of plants and animals. The land of Papua is said to have been first discovered by Saavedra, a Spanish captain in 1528, who had sailed from Mexico by the command of Cortez, to explore the Spice Islands from that quarter §. Other Spanish navigators enlarged this discovery; and the strait between this country and New Holland was explored by Cook, while the learned president Des Brosses, and even Bougainville, the French circumnavigator, had doubted whether such a passage existed ||. This extensive country is still far from being completely investigated, but is conceived to be a vast island, extending from a cape, absurdly styled of Good Hope, but more properly White Point, in the N.W., probably to Cape Rodney in the S.E., a length of more than 1200 miles, by a medial breadth of perhaps 300, and thus far superior in size to Borneo, formerly reputed the largest of islands.

ORIGINAL POPULATION.] On this extensive territory, in a situation

\* Pennant, iv. 127.

† De Boiles, i. 149.

‡ Ib. 130.

§ Collins, i. 617.

|| Introduction to Cook's last voyage (by Bishop Douglas, p. xvi.) The reader who wishes for more particular details concerning the progress of discoveries in the Pacific, may be referred to the work of Des Brosses, often quoted; and to Mr. Dalrymple's collection of voyages in the Pacific, 1770, 4to. The learned French publication was translated by John Callander, Edin. 1766. 8 vols. 8vo. who seems disposed to pass it as an original under the title of *Terra Australis Cognita*.

so highly favoured productions, the northern part of the traditions bear a language seems to be probably connected with New Britain. Malay diffusion of the woolly hair of the natives, as in New Guinea, would seem to be confirmed. In the which they ascribe surprise. The sequel, the latter resemble the Borneo, seem the most interesting afterwards burn the axe, while the hogs\*.

"The aspect stout in body, the with marks like large, their noses especially the upper red. It is dressed times ornament the add to their deformations, pieces of brass hang round their are of less size than brass rings."

The religious to make tombs of the chief commerce is instruments and utensils, pearls, birds of great skill. Some intestine wars.

The coasts of the above mountain, rich in cocoa-trees, and the navigator with delight, inhabitants. But by nations of the globe barren provinces are

The natural history is striking and splendid and singular enumerated by Mr. adjacent isles of Aru there during the wet retire to Arroo, migrate

\* Forrester's Voy.



so highly favoured by nature, and probably enriched with the choicest productions, there is no European settlement. The inhabitants of the northern part are called Papous, whence the name of the country. The traditions bear that they are brethren of the Moluccans, and the language seems to have no affinity with that of New South Wales, but is probably connected with that of Borneo, &c. on the west, and that of New Britain and the isles on the other side, being part of the wide Malay diffusion. The inhabitants are black, and even said to have the woolly hair of negroes; but this last circumstance will probably be discovered, as in New Holland, to proceed from art, and in some parts it would seem that the inhabitants have the true Malay complexion and features. In the interior is a race called Haraforas, who live in trees, which they ascend by a notched pole, drawing it after them to prevent surprise. The appearance of the Papuans and their habitations is grotesque, the latter being built on stages in the water; in which they resemble the Borneans, and other nations in the Asiatic isles. The women seem the most industrious in making mats, and pots of clay, which they afterwards burn with dry grafs or brushwood; nay, they will even wield the axe, while the men are indolent, or preparing for the chase of wild hogs\*.

"The aspect of these people is frightful and hideous; the men are stout in body, their skin of a shining black, rough, and often disfigured with marks like those occasioned by the leprosy; their eyes are very large, their noses flat, mouth from ear to ear, their lips amazingly thick, especially the upper lip; their hair woolly, either a shining black or fiery red. It is dressed in a vast bush, so as to resemble a mop; they sometimes ornament their hair with feathers of the birds of paradise; others add to their deformity by boring their noses, and passing through them rings, pieces of bone, or sticks; and many, by way of ornament, hang round their necks the tusks of boars. The heads of the women are of less size than those of the men, and in their left ear they wear small brass rings."

The religious tenets of the Papuans have been little examined. They make tombs of the rude coral rock, sometimes with sculptures. The chief commerce is with the Chinese, from whom they purchase their instruments and utensils. Their returns are ambergris, tortoise-shell, small pearls, birds of paradise, and other birds, which the Papuans dry with great skill. Some slaves are also exported, probably captives taken in intestine wars.

The coasts of Papua are generally lofty and inland, mountain rises above mountain, richly clothed with woods. The shores abound with cocoa-trees, and the whole country seems to have impressed every navigator with delight, and well deserves more cultivated and industrious inhabitants. But by a singular fatality many extensive and beautiful portions of the globe are thinly inhabited by a few savages, while cold and barren provinces are the crowded seats of civilized nations.

The natural history of this country is little known, but the zoology is striking and romantic. Papua is the chosen residence of the splendid and singular birds of paradise, of which ten or twelve sorts are enumerated by Mr. Pennant. They seem to be chiefly caught in the adjacent isles of Arroo, being supposed to breed in Papua, and reside there during the wet monsoon; while during the dry, or western, they retire to Arroo, migrating in flocks of thirty or forty. During their

\* Forrest's Voyage to New Guinea. Pennant's Outlines, iv. 206.

flight they cry like starlings, but when surprised with a strong gale they croak like ravens, and ascend to the superior regions of the air. They alight on the highest trees, seeming to feed on berries, and according to some, on nutmegs and butterflies; and are either shot with blunt arrows, or caught with birdlime, or nooses. The bowels and breast bone being extracted, they are dried with smoke and sulphur, sold for nails or bits of iron, and exported to Banda. Papua also boasts of elegant parrots; while the crowned, or gigantic pigeon almost equals a turkey in size.

Captain Forrest, to whom we are indebted for an interesting voyage in these seas, only visited the harbour of Dory in the northern part of Papua, so that our knowledge of this large island remains extremely imperfect. He observed at a considerable distance, the mountains of Arfac, of a remarkable height. Near the harbour of Dory he found in some little isles abundance of nutmeg trees, and there is room to infer that the land of Papua is not destitute of the same productions, and may perhaps also boast of cloves.

Some of the small adjacent islands are better known than the main land of Papua. At the N.W. extremity the chief isles are Waijoo, and Salwatti; besides several smaller ones.

Farther to the S. are the Papuan islands of Arroo and Timor Laut.

Waijoo, or Wadjoo, is an isle of considerable size, and is said to contain 100,000 inhabitants. The land is high with lofty mountains, and on the north side are two excellent harbours Piapis and Offak\*.

Salwatti is also a populous island, governed by a raja. The people of these two large islands resemble those of the main land of Papua, being a singular race of horrible appearance, and great ferocity. They live on fish, or turtle, and sago, that tree abounding in Papua, but the substance is chiefly prepared by the people of Waijoo.

Timorlaut is another Papuan island of considerable size, but of which there is no particular account. The Arroo islands appear, in Arrow-smith's chart, divided into five by intervening straits, and, as already mentioned, are the remarkable seats of the birds of paradise. The chief product is sago, and the people make expeditions to the main land, where they seize captives, and sell them at Banda. In political geography the Arroo isles have been considered, since 1623, as belonging to the Dutch East India Company, and subservient to those of Banda†.

On the N. of the main land of Papua are the isles of Mysory and Jobi, with several others of smaller consequence; nor indeed are the discoveries sufficiently complete to trace with precision the northern shores of Papua, or the isles adjacent.

### III. NEW BRITAIN, AND NEW IRELAND, WITH THE SOLOMON ISLES.

NEW Britain was first explored and named by Dampier, that navigator having passed a strait, to which his name is given, between this country and Papua. In 1767 Captain Carteret passed through a channel between New Britain and New Ireland, which last is a long slip of land stretching from N. W. to S. E.; and it is also probable that New Britain may be found to be divided into two or more islands. In these

\* See Forrest's Voyage and the Chart.

† De Brosse, l. 440.

parts the nutmeg region towards New Britain, a mountainous and streams. The those of Papua product seemed particularly gin main land, and

**INHABITANTS** very hostile, having with white, and They are black, or flat nose of the feet in length, for this country, and rous birds, was t

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The Solomon I Pacific, may be c son's isle, or the Egmont by Cart centre, seem of co Solomon Isles of t Some of the native a wrapper of linen with little beads of fastened together. bread made of root Bougainville.

### IV. NEW

THESE regions Bougainville in 17 the most northern Quiros.

New Caledonia is ticular has been li cular race, of a d Zealand.

The north wester Cook, who says that which, in the Society a chief. The women cific. The houses an is the form of a bee h wrapper; and the ha a comb, while the b

parts the nutmeg tree is found abundant, being perhaps the most remote region towards the east, of that valuable plant. Dampier visited a bay in New Britain, called Port Montague, A.D. 1700, and found the land mountainous and woody, but interspersed with fertile vales and beautiful streams. The country seemed very populous, the natives resembling those of Papua, and navigating their canoes with great skill. The chief product seemed to be cocoa nuts, but there were yams, and other roots, particularly ginger; and the sea and rivers swarmed with fish. In the main land, and adjacent isles, there are several volcanoes.

**INHABITANTS.]** Captain Carteret found the natives of New Ireland very hostile, having lances headed with flint. Their faces were streaked with white, and their hair dabbed with powder of the same colour. They are black, and said to be woolly headed, but without the thick lips or flat nose of the negro. Some of the canoes of New Ireland were ninety feet in length, formed out of a single tree. Bougainville also visited this country, and observed here the pepper plant, while, among the numerous birds, was the great crowned pigeon.

A more ample description is unnecessary, as these countries are far from being completely discovered. The same observation must be extended to what are called the Solomon Islands, which appear to have been discovered by Mendana, who sailed from Lima to the westward in 1575.

The Solomon Islands, as laid down in Mr. Arrowsmith's chart of the Pacific, may be considered as a large group, extending from Lord Anson's isle, or the Bouka of Bougainville, in the N.W. to the isle called Egmont by Carteret in the S.E. Some of the islands towards the centre, seem of considerable size, particularly in length. If these be the Solomon Isles of the Spaniards, it is asserted that they are rich in gold. Some of the natives were of a copper colour, others of a deep black, with a wrapper of linen around the waist, while the neck was ornamented with little beads of gold. The canoes were small, two being commonly fastened together. In baskets of palm leaves they carry a kind of bread made of roots\*. These islands are the land of the Arfacides of Bougainville.

#### IV. NEW CALEDONIA, AND THE NEW HEBUDES.

THESE regions were discovered by Captain Cook in 1774; but Bougainville in 1768 had sailed through the New Hebrides; and the most northern is supposed to be the land of the Holy Ghost of Quiros.

New Caledonia is a large island, the southern part of which in particular has been little explored. The natives are said to be a particular race, of a deep brown complexion, resembling those of New Zealand.

The north western part of this large island was explored by Captain Cook, who says that this district was called Balade. The name of Tee, which, in the Society Isles, implies a guardian spirit, seems here to denote a chief. The women are more chaste than in the other isles of the Pacific. The houses are neat, some having carved door posts, and they rise in the form of a bee hive, warm, but full of smoke. The dress is a slight wrapper; and the hair, which is frizzled, not woolly, is ornamented with a comb, while the beard is worn short. They subsist on roots and fish,

\* De Bruffes, i. 239.

the country being very barren and rocky. In New Caledonia Dr. Forster found large rocks of quartz, with layers of gold-coloured mica, blended with serpentine, hornblende, talc, and garnets. The bread fruit and cocoa nut are scarce; but many new plants were observed.

Among the New Hebrides Captain Cook has given the most particular account of Mallicollo in the north, and Tanna in the south. Dr. Forster thought that the people of the former, who are ugly and diminutive, had a language different from any they met with in the voyage. In Tanna there is a remarkable volcano, with some hot springs. Here are found plantains, sugar canes, yams, and several kinds of fruit trees. The natives rather resemble those of New Holland than the Friendly Islanders, and are particularly dexterous in the use of the spear.

#### V. NEW ZEALAND.

THIS country was first discovered by Tasman in 1642, but he did not land. The natives however came on board, and some intercourse took place, during which seven of the Dutch, who had gone ashore unarmed, were cruelly slaughtered. The people were described to be of a colour between brown and yellow, with long black hair resembling the Japanese.

Our great navigator Cook explored these regions in 1770, and discovered a strait which divides the country into two large islands. The southern was supposed to be called by the natives Tavia Poenamoo, and the northern Eaheianowmawe, names which equal the Russian in length, and which might well be contracted. The first is not less than 600 B. miles in length, by about 150 in medial breadth; and the second is little inferior in size.

One of these islands appears to be far more fertile than the other; but both enjoy a temperate climate, similar to that of France. The natives were again observed to be of a brown complexion, little deeper than the Spanish, and some are even fair. They equal the tallest Europeans in stature; and their features are commonly regular and pleasing. It is singular to observe such a diversity between them and the natives of New Holland, when theory would expect to find them the same race of men. So far as present discoveries extend, the natives of New Holland and Papua seem to display an African origin; while most of the other islands in the Pacific appear to have been peopled from Asia.

**MANNERS AND CUSTOMS.]** The New Zealanders inter their dead; they also believe that the third day after the interment the heart separates itself from the corpse, and is carried to the clouds by an attendant spirit.

Suicide is very common among the New Zealanders, and this they often commit by hanging themselves on the slightest occasions; thus a woman who has been beaten by her husband will perhaps hang herself immediately.

They have no other division of time than the revolution of the moon, until the number amounts to one hundred, which they term "Tassee E-tow," that is one Etow, or hundred moons; and it is thus they count their age, and calculate all other events.

Captain Cook's last voyage contains considerable information relative to the southern isle, from which a few brief hints may be added, as this region only yields to Papua in size and consequence. Storms were found to be not only frequent but violent, and often changed in their direction

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\* Cook, i. 162.

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rection by the height of the mountains, which at these times are always loaded with vapours. The natives have no *morai*, or place of worship; but the priests alone address the gods for prosperity.

The enormous lizards described by the natives are probably alligators. The bases of the mountains seem to be sand stone; and the soil resembles yellow marl; even the hills are covered with trees of the most lofty luxuriance, seeming to retain their foliage till expelled by the succeeding leaves in spring; for in June, which corresponds to our December, the verdure was complete. The flax of New Zealand has excited particular attention, being of a beautiful silky appearance, and the plant remarkably tall. The culture has been attempted both in France and England without success; perhaps from some remarkable difference in soil, or the entire reversion of seasons. The birds seem to be often peculiar in species and colour; and it is not a little remarkable that, in this extensive land, no quadruped was observed, except a few rats, and a kind of fox dog, which is a domestic animal with the natives.

The general dress is an oblong garment, made by knotting the silky flax; and the ears are ornamented with bits of jad or beads, the face being often besmeared with a red paint, seemingly iron ochre mingled with grease. The habitations are far superior to those in New Holland: and the boats are well built of planks, raised upon each other, and fastened with strong withes. Some are fifty feet long, and so broad as to be able to sail without an out-rigger, but the smaller sort commonly have one, and they often fasten two together by rafters. The large canoes will carry thirty men or more; and have often a head ingeniously carved. They bake their fish in a rude oven; and the use of bread is supplied by a kind of fern, which yields a gelatinous substance like sago. They are ingenious mechanics with their rude tools, which are mostly of green jad. Their weapons are spears and javelins, with the *pa-too*, a kind of club or rude battle-axe; and in combat they distort their features like demons. The yet warm bodies of their enemies are cut in pieces, broiled, and devoured with peculiar satisfaction\*. The warlike actions of their ancestors are preserved in traditional songs, which are frequently sung, and accompanied with their rude flute.

One of the most recent accounts of this country is that published† by Mr. Savage, a surgeon, who brought one of the natives to England. His description particularly applies to the Bay of Isles, a noble harbour near the north cape of New Zealand, lat.  $34^{\circ} 25'$  long.  $173^{\circ} 4'$ , while the Bay of Isles is in lat.  $35^{\circ} 6'$ , and E. long  $174^{\circ} 43'$ . In this part of the country it would appear that the people are rather mild than ferocious. The chief animals observed were a black and white dog, and a pigeon of large size and great beauty. The chief town of this part contains about a hundred houses.

#### VI. VAN DIEMEN'S LAND.

This is the last great division yet discovered of the wide expanse of Australasia. The name was imposed by that eminent Dutch navigator Tasman, as already mentioned, in honour of the Dutch governor-general in the East Indies‡. It has been recently discovered to be an island, in

\* Cook, l. 162.

† London, 1807, 8vo.

‡ There is another Van Diemen's Land, a northern cape of New Holland. Such duplicate names are injurious to the study of geography, and ought to be formally abrogated, if a Board of Nomenclature, so much wanted, were instituted. The southern Van Diemen's Land, or one of the isles of New Zealand, should be called Tasmania, in honour of the discoverer.



the form of an oblong square, about 160 B. miles in length by half that breadth, being divided from New Holland by a strait, or rather channel, more than thirty leagues wide, which in recent maps is called Bass's strait, and contains a chain of small islands running N. and S. During his last voyage, Captain Cook, in January 1777, visited Diemen's land for supplies of wood and water, and grass for the animals on board. They were met by some of the natives, who were entirely naked; of a common stature, but rather slender, the skin being black, and the hair as woolly as that of any native of Guinea, but their lineaments were more pleasing than those of African negroes. The hair and beards, and of some the faces, were smeared with red ointment. They seem to prefer birds to all other food. The land is chiefly of a good height, diversified with hills and valleys, and every where of a greenish hue, being well wooded and watered. The Fluted Cape appears to be composed of a very fine white sand stone, which in many places bounds the shore, and the soil is either sandy or consists of a yellowish mould, and in some places of a reddish clay. The forest trees seem to be all of one kind, growing quite straight to a great height, and may be well adapted for masts. The only quadrupeds discovered were opossums and kangaroos; and the birds cannot differ much from those of New Holland, to which there is as it were a passage by intermediate isles. The hovels resemble those of New Holland; but sometimes large trees are hollowed out by fire to the height of six or seven feet, so as to form a rude habitation.

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## POLYNESIA.

**T**HE boundaries of this extensive division of the globe have already been briefly mentioned, in the introduction to the Asiatic Islands. A line passing due north, in the meridian of  $130^{\circ}$  east from Greenwich, will leave the Philippine Islands in the oriental archipelago, divided by a wide sea from the Pelew Isles, the most western group of Polynesia, though a few small detached isles appear to the S.W. About  $20^{\circ}$  N. lat. the line of demarcation bends N.E. so as to include the isle of *Todos los Santos*, and that called *Rica de Plata*, thence proceeding E. so as to include the Sandwich Islands, and pass S. about long.  $122^{\circ}$  west, till it reach the southern lat. of  $50^{\circ}$ , where it turns to the west, and joins the boundary of Australasia.

It is probable that future navigations may greatly improve and enlarge the geography of Polynesia, by the discovery of new groups, and the more accurate arrangement of those already known. At present the following appear to be the chief subdivisions:

1. The Pelew Isles.
2. The Ladrões, a chain extending in a northerly direction, the small islands in the Pacific seeming to be mostly the summits of ranges or groups of mountains.
3. The Carolines, a long range from E. to W., so as perhaps in strictness, to include the Pelews.
4. The Sandwich Isles.
5. The Marquesas.

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6. The Society Isles, so named in honour of the Royal Society.

7. The Friendly Isles.

There are, besides, many isles scattered in different directions, which it would be difficult to connect with any group, and indeed none of them, yet discovered, appears to be of any consequence.

#### I. THE PELEW ISLES.

This group recently attracted considerable attention, from an ingenious and pleasing account of them, drawn up by Mr. Keate, from the papers of Captain Wilson, who suffered shipwreck on these islands in 1783. The narrative is doubtless heightened by Mr. Keate's imagination, but the people appear to be a most gentle and amiable race, the gay and innocent children of nature. It is a peculiarity in the oriental archipelago, that the small isles are the chief seats of comparative civilization, by the concentration of society. To this circumstance may be added, that in large islands the natives split into distinct tribes, generally hostile to each other, whence the pleasurable passions almost expire in the constant succession of fear and rage, while, in the small islands, their being no room for secession, the society becomes as it were one family.

The Pelewans are a stout well made people, rather above the middle stature. Their complexions are of a far deeper colour than what is understood by the copper hue, but not black, and their hair is long and flowing \*. The men are entirely naked, while the women only wear two little aprons, or rather fringes, made of the husk of the cocoa nut. Both sexes are tattooed, and the teeth are dyed black. Polygamy is allowed, and the dead are interred. There seems no appearance of religion of any kind, though they have an idea that the soul survives the body. Mild, affable, and industrious, this little tribe, like the inhabitants of Otaheite, form an exception to the general rule of savage existence. The language is probably a dialect of the Malay, so widely diffused through these seas.

The government is in the hands of a king, under whom there are *rupaks*, or chiefs, who also constitute a kind of nobles. The property of all the land is supposed to be vested in the sovereign; while that of the people is only personal, as a canoe, weapons, or rude articles of furniture. Our domestic poultry are here wild in the woods, and were neglected by the natives, till taught by the English that they were proper for food. Their chief nourishment appears to be fish; but they make a kind of sweet-meat from the sugar-cane, which seems indigenous. The chief drink is the milk of the cocoa nut. They commonly rise at day-light, and immediately go to bathe in fresh water. Their houses are raised on large stones, about three feet from the ground, being constructed of plants and bamboos, and the fire-place in the middle, secured with hard rubbish. There are large mansions for public meetings. The best knives are of mother of pearl, others of a large muscle shell, or split bamboo. They make oval vessels of coarse earthen ware. In general their articles resemble those of Otaheite, and other isles in the South Sea. The weapons are spears, darts, and slings: and the canoes are formed of the trunk of a tree neatly ornamented.

These isles had scarcely been visited by any European till Captain

\* Keate, 318.

Wilson landed at Ooloolong. They are in general of a moderate height, well covered with wood; and are encircled on the west side by a reef of coral, from two to six leagues from the shore, and of great length. The ebony tree is found in the forests, and the bread fruit and cocoa tree seem to abound, with sugar-canes and bamboos. No kind of grain was seen, nor any quadrupeds, except some rats in the wood, and three or four cats in the houses, probably drifted ashore from some wreck. Of birds, pigeons seem the most numerous: and the wild poultry have been already mentioned.

## II. THE LADRONES.

THIS appellation implies the Isles of Robbers, and was given by that distinguished navigator Magalhaens, who first discovered these islands in 1521, the natives shewing great disposition to pilfer, and much address in the execution of their designs.

According to the Jesuit Gobien, who has published a particular history of the Ladrones, or Marian Islands\*, the inhabitants, till the arrival of the Spaniards, regarded themselves as the only men in the world. When they were visited by the Spaniards and Dutch, they inferred that these strangers were brethren, who had lost the primitive Guamese language. In colour, speech, manners, and government, they considerably resemble the Tagals or people of the Philippines, before the Spanish conquest. These isles were then very populous, Guam, in forty leagues of circuit, having thirty thousand inhabitants.

In the reign of Philip IV. of Spain these isles were also called the Marians, in honour of his queen, Mary of Austria. The largest is that of Guam, but Tinian has attracted more attention, from the romantic description in Anson's voyage. There is no doubt that mariners who have been long at sea, and suffered many diseases and privations, will be infinitely delighted with any verdant land, and find beauties where none exist. Hence subsequent navigators have been greatly disappointed in Tinian. Anson found here abundance of wild cattle, of a white colour, except the ears which are generally black or brown. But they had probably been imported by the Spaniards, as a supply for the garrison at Guam. Here were also found oranges, limes, and cocoa nuts, with that celebrated and remarkable tree which bears the bread fruit.

The Ladrones are computed to be twelve or fourteen in number; but not above three or four are inhabited. Their vessels, called flying proas, have been esteemed singular specimens of naval architecture, and at a distant interval impressed Pigafetta and Anson with the ingenuity of the contrivance. The natural history of these islands is little known. It appears from the voyage of La Perouse that some of them are volcanic.

To the N. of the Ladrones are many small islands, extending to Todos Los Santos, lat. 30°, those farther to the N. belong to Japan. This group may either be arranged among the Ladrones, or might perhaps admit of a distinct appellation.

The Golden and Silver Isles seem to be so styled from Japanese fables, and with a few other scattered isles on the N. of the Carolines, merit little attention. In these seas is the stupendous rock called Lot's Wife, rising in the form of a pyramid, and thus described by Mr. Meares in his

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\* Paris, 1700. 12mo.

voyage: "The latitude was  $29^{\circ} 50'$  north, the longitude  $142^{\circ} 23'$  east of Greenwich. The waves broke against its rugged front, with a fury proportioned to the immense distance they had to roll before they were interrupted by it. It rose almost perpendicular to the height of near three hundred and fifty feet. A small black rock appeared just above the water, at about forty or fifty yards from the western edge. There was a cavern on its south-eastern side, into which the waters rolled with an awful and tremendous noise. In regarding this stupendous rock, which stood alone in an immense ocean, we could not but consider it as an object which had been able to resist one of those great convulsions of nature that change the very form of those parts of the globe which they are permitted to desolate."

### III. THE CAROLINES.

THIS is the largest group, or rather the most extensive range of islands in the Pacific ocean. This chain appears to have been first discovered by the Spaniards in 1686, and was named from the Spanish monarch Charles II. They are about thirty in number, and very populous, except three which were uninhabited. The natives resemble those of the Philippines, and chiefly live upon fish and cocoa nuts; and it is probable that their language only differs in a few shades. According to the letters of the Jesuits, each isle was subject to its chief, but all respected a monarch, who resided at Lamurec.

They believe in certain celestial spirits, and think they descend to bathe in a sacred lake in Fallalo, but there are neither temples nor idols, nor any appearance of worship. The dead are sometimes thrown into the sea, and at others interred, the grave being surrounded with a stone wall. It is said that those of Yap worship a kind of crocodile, and have their magicians. Polygamy is allowed, and the Tamul or chief of the large isle of Hogoleu had nine wives. Criminals are banished from one isle to another\*.

They do not appear to have any instruments of music, but their dances are accompanied with songs. Their only weapons are lances, armed with bone. Even in this distant quarter of the globe negro slaves are not unknown: and in one or two of the islands the breed is said to be mingled, twenty nine Spaniards having been left on one of these islands, who are supposed to have married and settled. The people of Ulea are reported to be more civilized than the rest, and appear much to resemble those of the Pelews.

The most considerable of the Carolines is Hogoleu, about 90 B. miles in length by 40 in breadth. Next is Yap, in the western extremity of this chain, but not above a third part of that size. The Caroline islands have been little visited by recent navigators; but a few small groups have been discovered in their eastern extremities, which may properly be classed in the same range.

### IV. THE SANDWICH ISLES.

THESE islands appear to have been first discovered by our great navigator Cook, and the island Owhyhee the largest in the group, being about 280 B. miles in circumference, is unfortunately distinguished as the place where this able commander was slain by the natives in February 1779.

\* De Brosse, 486.

These islands were so named by Cook in gratitude to the earl of Sandwich, a minister who had warmly promoted his labours. The natives are rather of a darker complexion than those of Otaheite, but the features are pleasing; and the death of Cook was not owing to ferocity, but a sudden impulse of undeserved resentment. The hair is sometimes long, sometimes curled, as among Europeans: but the nose is always spread at the point, perhaps owing to the mode of salutation, in which they press their noses together. Captain King represents them as a mild and affectionate people, free from the Otaheitan levity, and the proud gravity of those of the Friendly Isles. This ingenious people have even made some progress in agriculture and manufactures: yet they still sacrifice human victims, but do not eat them like the people of New Zealand, at least so far as information could be obtained. The beard is generally worn; and among the ornaments of both sexes is a kind of fan to drive away flies, made of the fibres of the cocoa nut, or of long feathers. Like the other nations of Polynesia, they tattoo their bodies: and among females even the tip of the tongue. The dress consists of a narrow piece of coarse cloth called the *maro*, prepared in the same manner as at Otaheite, which passes between the legs and is fastened round the loins. In battle the men throw a kind of mats over their shoulders, and this armour is neatly manufactured. On solemn occasions the chiefs wear dresses, artfully and beautifully formed of feathers. The women have only a slight wrapper, and the hair is cut short behind, but turned up from their forehead. The food consists chiefly of fish, to which are added yams, plantains, and sugar canes; while people of rank feast on the wild boar, and sometimes the flesh of dogs. The government is in a supreme chief called Eree Taboo, whose funeral is accompanied by the sacrifice of two or more servants. The inferior chiefs are styled Erees; and there is a second class of proprietors, and a third of labourers, all these ranks seeming to be hereditary. Though human sacrifices be here more frequent, the other rites appear to correspond with those of the Society Islands, which shall be described in the account of Otaheite.

**CLIMATE.]** The climate appears to be more temperate than that of the West Indies; and in Owhyhee the mountains arrest the clouds, and produce rain inland, while there is sunshine on the shore. The winds seem generally easterly, and there is a regular land and sea breeze.

**ZOOLOGY.]** The quadrupeds, as usual in Polynesia, are few; only hogs, dogs, and cats, being discovered. The kinds of birds are not numerous, being, among others, large white pigeons, plovers, owls, and a kind of raven. These islands produce abundance of the bread fruit, and sugar canes of amazing size. Upon the whole this discovery was important; and Owhyhee is the largest island yet found in the wide extent of Polynesia.

#### V. THE MARQUESAS.

THESE islands were discovered by Mendana, who imposed the name in honour of Don Garcia de Mendoza, marquis of Caniente, viceroy of Peru, whence they are also sometimes styled the isles of Mendoza. One of the best known to Europeans is the Isle of Ohittahoo, to the S. of the larger Isle Ohevahou.

In 1774 the Marquesas were visited by captain Cook, and in 1789 by the French circumnavigator Marchand. The best recent account of them is that given in the *Millionary Voyage*, captain Wilson having visited the Marquesas in 1797.

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The natives are said to surpass all other nations in symmetry of shape, and regularity of features; and were it not for the practice of tattooing which blackens the body by numerous punctures, the complexion would be only tawny, while the hair is of many colours, but none red. Some of the women are nearly as fair as Europeans, and among them tattooing is not so universal\*. A long narrow piece of cloth was wrapt round the waist, the ends being tacked up between the thighs, while a broad piece of their cloth was thrown over the shoulder, reaching half way down the leg.

The religious ceremonies resemble those of Otaheite; and they have a morai in each district, where the dead are buried under a pavement of large stones. Their deities are numerous, and the chiefs seem to have little power, custom alone being followed, instead of laws. Like most uncivilized nations, they have no regular meals, but eat five or six times a day, or oftener. The women seem more subjected to the men than at Otaheite. The canoes are made of wood, and the bark of a soft tree, being commonly from sixteen to twenty feet in length, the prow carved in rude resemblance of a human face.

No quadrupeds were discovered except hogs, but there are tame poultry; and the woods are filled with many beautiful birds. In one of these isles an English missionary was left, in the benevolent intention of discouraging mutual slaughter, and human sacrifices.

The largest isle of the Marquesas, Noabeva, is not above half the size of Otaheite, and in general the multitude of small islands in these seas presents a wonderful variety in the works of nature, the largest island yet discovered in Polynesia being Owhyhee, which is about 100  $\frac{1}{2}$  miles in length.

#### VI. THE SOCIETY ISLES.

This group has attracted more attention than any other in Polynesia, and our admiration of Otaheite has excited some degree of ridicule on the continent.

All the islands from longitude  $160^{\circ}$  west from Greenwich, to the eastern extremity of Polynesia, may be included under the general name of Society Islands, a range which will thus even exceed the Carolines in number, amounting to sixty or seventy. Of these, Otaheite is still by far the most considerable in size, being about 120 miles in circumference. It consists of two peninsulas, joined by a neck of land, about three miles in breadth, the smallest peninsula to the S.E. being about fifteen miles in length, by ten in breadth, while the large peninsula to the N.W. is almost circular, and about twenty-five miles in diameter: the whole length being thus about forty  $\frac{1}{2}$  miles, or forty-six British. From the map drawn by captain Cook, and republished with some improvements in the Missionary Voyage, this island appears to consist of two mountains, a larger and a smaller, joined by the narrow ridge above mentioned; and the habitations are entirely confined to the level coasts. This circumstance seems universal in Polynesia, as the natives crowd to the shores for fish, their chief aliment; and it is probable that, the original colonies having settled on the coasts, indolence has prevented them from visiting the inland heights. Nor is it improbable that even in the large countries of Australasia a similar singularity may

\* Missionary Voyage, London, 1799, 4to. p. 143.



be observed, the scarcity of animal food probably compelling the natives chiefly to reside on the shores.

Near the central summit of the large mountain of Otaheite, which in circumference, though not in height resembles Etna, there is a curious lake of some extent: but no river appears, there being only rivulets, which spring from the skirts, and pursue a brief course of two or three miles to the ocean.

**INHABITANTS.]** The natural colour of the inhabitants is olive, inclining to copper. Men exposed to the sun become very dark; but the women are only a shade or two deeper than an European brunette. They have fine black eyes, with white even teeth, soft skin, and elegant limbs; while their hair is of a jetty black, perfumed and ornamented with flowers\*. But with all these advantages they yield infinitely in beauty to the women of the Marquesas, the face being widened from continual pressure from infancy, which by distending the mouth, and flattening the nose and forehead, gives a broad masculine appearance. Hence it is evident that the Grecian and academical forms, given by artists void of real taste or precision, to the people of the South Seas, in the prints that accompany the English and French voyages, are totally false and imaginary.

The chiefs are taller than the people, few being under six feet; and as personal size and strength are the chief distinctions in early society, it is probable that their ancestors were selected for these advantages, which have been continued by superior food and ease. The dress of both sexes is nearly the same, except that the men wear the *maro*, a narrow piece of cloth wrapped round the waist, and passing between the thighs; an oblong piece, cut in the middle to admit the head, hangs down before and behind: and another piece is wrapped round the middle, and a square mantle is thrown over all. Both sexes wear garlands of flowers and feathers; and the women use a kind of bonnet made of cocoa leaves. Parturition is easy; and the infant can swim as soon as it can walk.

Their voice and speech are soft and harmonious; and their dialect is the Italian of the Pacific ocean. Their rude manufactures are truly wonderful, and evince the greatest ingenuity. Their dwellings are about eighteen feet in length, with a few articles of furniture, such as trays, baskets, mats, and a large chest.

**RELIGION.]** Their deities are numerous; each family having its Tee, or guardian spirit, whom they worship at the morai; but they have a great god, or gods of a superior order, styled Fwhanow Po, or the progeny of night. These benevolent people cannot conceive a future punishment; and regard the idea alone as the utmost effort of human malignity. But they admit the immortality of the soul, and degrees of future eminence and happiness, proportioned to its virtue and piety. The Tahouras, or priests, are numerous, and have great power; but all the chiefs officiate on certain occasions. The human victims are commonly criminals, and are killed during sleep; a curious instance of ferocious superstition, mingled with mildness of character.

**ZOOLOGY.]** The chief animals are hogs, as usual in all the isles of Polynesia, and they have also dogs and poultry. The bread fruit tree abounds; and large plantations are made of cocoa trees and plantains. The seas swarm with fish, and in catching them great ingenuity is displayed, the canoes having outriggers, or being doubled, by lashing two together.

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and government ; and the women of the Marquesas far superior in beauty ; yet the people in Otaheite are so polite and affable, and their manners so engaging, that joined with the romantic beauty of the country, the numerous streams, and the superabundance of spontaneous productions, this island is still preferred to all others in Polynesia.

It has already been mentioned that this island consists as it were of two mountains. These are encircled by a border of low land, from the beach to the rising of the hills, in some places near a mile in breadth, while in others the rocks impend over the sea. The soil of the low lands, and of the vales which intersect the ridge towards the ocean, is remarkably fertile, consisting of a rich blackish mould. When the trade wind gets far to the south it rains on that side of the island ; but on the north the showers are less frequent and violent. In the latter the harvest of bread fruit begins about November, and continues till the end of January : while in the southern part it often begins in January and continues till November. On ascending the hills, the soil changes from a rich loam into veins of clay, or marl, of various colours. Beneath is a soft sandstone, of a brownish colour ; and basalt also abounds, of a fine grain, of which they used to make their tools. The black volcanic glass, called obsidian, is said to be found in the rivers, and also pumices, sure indications that a volcano once existed. The larger fresh water lake above mentioned may perhaps have been its crater. This lake is said to be fathomless ; but its shores are well peopled by an industrious race. The chief harbour of Otaheite appears to be Matavia, on the north side of the island ; but there is another of similar note in the S.E., called Langaras.

The next island in regard to size is Ulitea : and the others of this group, even taken in its utmost extent, are of far inferior dimensions to Otaheite, nor has any striking singularity yet been observed which might claim attention in a general description.

As an appendage to this article, some account may be added of Easter Island, a detached and remote region, which however, so far as the discoveries yet extend, seems rather to belong to Polynesia than to South America. This isle appears to have been first seen by Davis in 1686 ; and was afterwards visited by Cook and La Perouse. It is of a triangular form, the longest side being above twenty-five miles in length, and at one extremity there appears to have been a volcano. The morais, or burial places, are of a remarkable structure ; being a kind of platform, in which are fixed shapeless and uncouth masses, rudely carved in imitation of busts, sometimes about fifteen feet in height. In these a red lava, very porous and light, is chiefly employed. There is scarcely a tall tree in Easter Isle, nor any brook, the water being retained in cavities made in the rocks ; but the natives are very industrious, and plant paper-mulberries, and bananas, with regular fields of potatoes and yams. They have the same language and features with the other natives of Polynesia.

#### VII. FRIENDLY ISLES.

This group extends chiefly from S.W. to N.E. including the Feejee Isles, those called the Isles of Navigators, and several detached isles in a more northerly position. The name was imposed by captain Cook, in testimony of the disposition of the people ; but they had been discovered by Tasman in 1643, who called the chief isle, now styled by the native

term Tongataboo, by the name of Amsterdam \*. His account of the manners of the people corresponds with the more recent and precise information given by captain Cook, and other late navigators. They are contrasted with those of Otaheite, as being of a more grave and regular behaviour; and the power of the chiefs is more despotic. A greater security of property has also superinduced more ingenuity and industry: but in general the manners and customs approach so nearly, that a farther account might appear repetition; and the persons of the natives are likewise similar, though the chiefs seem inferior in stature.

In the Missionary Voyage 1797, there is an interesting map of Tongataboo, which thence appears to be a plain country, in an universal and surprising state of cultivation, the whole island consisting of inclosures, with reed fences about six feet high, intersected with innumerable roads. The whole is such a picture of industry, as to form a reproach to nations who call themselves civilized. The length of Tongataboo is only about sixteen miles, by about eight at its greatest breadth. On the north side there is a lagoon, with several isles, constituting a tolerable harbour. The commodities are, as usual, hogs, bread fruit, cocoa nuts, and yams.

Though the people of the Friendly Isles be more free from wars than those of the group before described, yet Tongataboo is often stained with human victims; nor do their ideas of property prevent their stealing from strangers. Some missionaries were here left, who imparted some useful arts to the natives, but the rats were very destructive to the European plants. These, with hogs, dogs, and guanos, constituted the only quadrupeds, till cats were left in the voyage of 1797. The morais seem to be here called fiatookas; and are constructed in the form of terraces with high steps, the material being coral stone.

To the N.W. are the Feejee isles, which the English missionaries discovered to be now subject to Tongataboo.

From the accounts of La Perouse it would appear that the isles discovered by Bougainville in 1768, and by him called the ISLANDS OF NAVIGATORS, are by far the most important in this large group. At Maouna, one of these islands, captain De Langle, Lamanon the naturalist, and nine seamen were massacred by the inhabitants, the captain having unadvisedly given beads to a few of the chiefs, while he neglected the others. From the chart of La Perouse it appears that the largest of these islands, which he calls Pola, is about thirty-seven g. miles in length, by about half that breadth, being thus inferior to Otaheite, though far surpassing Tongataboo. Next in gradual diminution of size, and in position from W. to E. are Oyolava, Maouna, and Opoun. If the accounts of La Perouse be not greatly exaggerated, the Islands of Navigators constitute the most important group yet discovered in southern Polynesia, in regard to fertility and population. At Maouna the frigates were surrounded with two hundred canoes, full of different kinds of provision, fowls, hogs, pigeons, or fruit. The women were very pretty and licentious; and the men of remarkable stature, strength, and ferocity: so that they despised the comparatively diminutive size of the French. The villages are delightfully situated in the midst of spontaneous orchards, and the huts neatly erected, with rude colonades, and covered with leaves of the cocoa palm. Hogs, dogs, and fowls, abounded; with the bread fruit tree, the cocoa nut, the banana,

the guava, and alone acceptable.

According to Otaheite, in about this isle, with 400,000 inhabitants, Maouna 500 huts, twenty-four hours here was observed while the sea was able for a ferocious Polynesian, wooden works only the bark of flax, resembling a native of the diffused throughout.

The Islands of descriptions, in which them is a favourite.

#### Botany

The plants of the peninsula of essential features have distinct and the isles of forming a large at; they are tance of about that can be produced moisture is here a vigilant and western constitution on the sea coast interior vegetable these countries.

All the East the palmetto, and food and wine to are they destitute the neighbouring the fever-cooling its kindred species choice of the inhabitants the turmeric, the finite variety of both cultivated a

\* See his description and prints in Dabrymple's Collection, vol. ii. p. 75.

\* La Perouse, 41. he only 16,050. Mi least 160,000. In li probable that there are

the guava, and the orange. Iron and cloth were despised, and beads alone acceptable.

According to La Perouse the island of Oyolava is at least equal to Otaheite, in beauty, extent, fertility, and population; and he supposes that this isle, with the larger isle of Pola, and that of Maoutna, contain 400,000 inhabitants\*. Such is the abundance of provisions, that at Maoutna 500 hogs, and an immense quantity of fruit, were procured in twenty-four hours. The natives of Oyolava are also of great stature; and here was observed the largest village in all Polynesia, smoking like a city, while the sea was covered with canoes. Though the people be remarkable for a ferocity of character, scarcely to be observed in any other part of Polynesia, they are still industrious and ingenious, polishing their wooden works very highly, with tools made of basalt. They have not only the bark cloth, but a kind composed of real thread, probably from flax, resembling that of New Zealand. Their speech was understood by a native of the Philippines, being derived from the Malay, a language diffused through all the scattered isles of Polynesia.

The Islands of Navigators are covered with fruit trees of various descriptions, in which wood pigeons and turtle doves swarm, and to tame them is a favourite amusement of the natives.

*Botany of the Asiatic Isles, of Australasia, and of Polynesia.*

The plants which have already been mentioned as characterizing the peninsula of Hindostan and India beyond the Ganges, form a very essential feature in the botany of those crowded groups that geographers have distinguished by the names of the Philippines, the Moluccas, and the isles of Sunda, and which on this account, may be regarded as forming a large and important appendix to the Indian continent. Situated as they are directly under the equator, and extending to the distance of about ten degrees north and south on each side of it, every thing that can be produced in vegetation by the combined influence of heat and moisture is here exhibited in complete perfection. Being inhabited by a vigilant and warlike people, and unhealthy in the extreme to an European constitution, only a few commercial settlements have been established on the sea coasts, so that we remain almost entirely ignorant of their interior vegetable productions, many of which are probably peculiar to these countries.

All the East Indian palmas, such as the cocoa nut, the areca, the sago, the palmetto, and the great fan-palm abound in these islands, and furnish food and wine to the natives at the least possible expence of labour: nor are they destitute of any of those fruit-bearing trees that adorn and enrich the neighbouring continent: the luscious mango, the scented eugenia, the fever-cooling tan arind, the pomegranate, and the orange, with all its kindred species and varieties, offer themselves on every side to the choice of the inhabitants. The plantain tree, the ginger, the sugar-cane, the turmeric, the pine apple, the yam, the sweet potatoe, rice, and an infinite variety of kidney beans, cucumbers, melons, and gourds, are found both cultivated and wild in inconceivable luxuriance; the larger grasses

\* La Perouse, 414. So Cook over-rated the people of Otaheite, now ascertained to be only 16,050. Miss. Voy. Forter, Obs. 219, sagely argues that Otaheite contains at least 160,000. In like manner La Perouse's 400,000 may probably be 10,000. It is probable that there are not above 200,000 souls in all Australasia and Polynesia.

also, such as the bamboo, and the canna, which have been already noticed as inhabitants of India, acquire a still more stately growth in the swamps of Java and Sumatra than on the banks of the Ganges.

The sandal wood and the precious calambac or aloes wood, the canaria, from whose bark flows the gum elemi, the annotta, the cassia, and the ebony, together with many other valuable woods and gums, whose uses and even names are unknown to Europe, are produced in these islands in higher perfection than elsewhere.

The excessive heat and abundance of moisture that distinguish the Indian islands, constitute a climate peculiarly favourable for the growth of those plants whose active qualities and high aromatic flavour place them at the head of the vegetable world: this therefore is the native country of the most valued spices. Pepper, both the long and the round, is found wild, and is largely cultivated in all these islands: the *laurus cinnamomum*, the inner bark of which constitutes the pungently fragrant spice of the same name, is produced chiefly in Sumatra and the neighbouring isles; *caryophyllus aromaticus*, the receptacle of whose blossom is known in the European markets by the name of cloves, abounds for the most part in the Moluccas; and the *myritica*, whose fruit is the nutmeg, and its inner covering the mace, by the mean jealousy of the Dutch East India Company has been almost entirely restricted to the little islands of Banda adjoining to Amboyna. But if this part of the globe be enriched by the most precious aromatics, it is also armed with the most active and deadly poisons; the same burning sun that exalts the former matures the latter. In the island of Celebez is produced the dreadful Macassar poison, a gum resin which exudes from the leaves and bark of a kind of rhus; this species, together with other poisonous trees of the same island, is called by the natives ipo or upas, a name now immortalized by the genius of Dr. Darwin. Such indeed is the deleterious activity of this tree, that, when deprived of all poetic exaggeration, it still remains unrivalled in its powers of destruction: from the sober narrative of Rumphius we learn that no other vegetable can live within a nearer distance of it than a stone's throw; that small birds accidentally alighting on its branches are immediately killed by the poisonous atmosphere which surrounds it; and that in order to procure the juice with safety, it is necessary to cover the whole body with thick cotton cloth: if a person approaches it bare-headed, it causes the hair to fall off; and a drop of the fresh juice applied on the broken skin, if it should fail to produce immediate death, will cause an ulcer very difficult to be healed.

All that we know of the indigenous vegetables of New Holland is confined to the immediate neighbourhood of the British settlement at Port Jackson. The forests here are for the most part composed of lofty trees, with little or no interruption of underwood, so that they are readily penetrable in any direction, the principal shelter afforded to the few wild animals being in the long matted grass, several feet in length, which over-spreads the open country. In no discovered region has nature been less lavish of her vegetable treasures than in this part of the great southern continent: the only fruit-bearing plant is a climbing shrub, the seeds of which are enveloped in a yellow cylindrical pulp tasting like a roasted apple. The loftiest of the trees, and which sometimes rises to the height of a hundred feet, is the *eucalyptus robusta*; it yields the brown gum, and its compact hard red wood has been imported into England by the name of New Holland mahogany. The red gum is procured from the *ceratopetalum gummiferum*, almost the only one of the native woods that

will

will float in water to the natural. c. ferable to any of formosum and p. houses. The other markable for the gardens is chiefly

As we advance and examine the tend in breadth f the Sandwich illa degrees beyond t resemblance, mo pected by the dist moisture, the tw esculent plants ar ocean that have y the Linnæan syste root in the garden pounds; and two come a mild fari islands, the chief i to the height of of a man's body; head, being gathe wholesome nourish eight successive mo in such abundance support of one m is manufactured i tion of huts and its milky glutinou Of almost equal i nerally diffused th trees. The sweet the fan palm is me sugar-cane, the pap are inhabitants of a cum, from which unhappily but too the *cratæva* or *pura cæna terminalis*, on the morais.

will float in water. A considerable proportion of the vegetables belong to the natural class of the papilionaceous, yet few even of these are referable to any of the old genera; two elegant species, the *platylobium formosum* and *pultnæa stipularis*, have been introduced into our hot-houses. The other indigenous plants are for the most part but little remarkable for their beauty or use, and the notice that they obtain in our gardens is chiefly owing to their being foreigners.

As we advance farther in the great Pacific Ocean towards America, and examine the botany of those numerous clusters of islands which extend in breadth from the Ladrões to Easter Island, and in length from the Sandwich islands under the northern tropic, to New Zealand, twenty degrees beyond the southern one, we shall find many features of general resemblance, modified however in such a manner as may naturally be expected by the different proportions which each receives of warmth and moisture, the two great supports of vegetation. The four following elegant plants are found either wild or cultivated in all the islands of this ocean that have yet been visited, namely, the sweet potatoe, arranged in the Linnæan system as a species of *convolvulus*; the yam, whose tuberous root in the gardens of Otaheite sometimes attains the weight of thirty pounds; and two species of *arum*, which, by culture and roasting, become a mild farinaceous food. Of the plants peculiar to the tropical islands, the chief is the *artocarpus*, or bread fruit: this valuable tree rises to the height of more than forty feet, with a trunk about the thickness of a man's body; its fruit, which is nearly as large as a young child's head, being gathered while yet unripe, and roasted in the ashes, is a most wholesome nourishment, and in taste resembles new wheaten bread: for eight successive months every year does this tree continue to furnish fruit in such abundance, that three of them are amply sufficient for the support of one man; nor is this the whole of its value, the inner bark is manufactured into cloth, the wood is excellent for the construction of huts and canoes, the leaves serve instead of napkins, and of its milky glutinous juice a tenacious cement and birdlime is prepared. Of almost equal importance with the bread fruit, and even more generally diffused through the islands, are the plantain and cocoa nut trees. The sweet orange is found sparingly in the New Hebudes, and the fan palm is met with on the mountains of the Friendly Isles. The sugar-cane, the paper mulberry, together with several species of figs, are inhabitants of all the larger and rocky isles; and the piper *methylisticum*, from which is prepared the highly intoxicating *ava* or *kava*, is unhappily but too frequent. Three plants are esteemed sacred, viz. the *crateva* or *purataruru*, the *terminalia glabra* or *tara iri*, and the *dracena terminalis*, on which account they are chiefly employed in shading the morais.



## AMERICA.

*Extent. — Origin and Progress of the Discoveries and Settlements. — Population of this Continent.*

**EXTENT.]** THE southern limit of the American continent is clearly estimated from the strait of Magalhaens, or, according to the French depravation of a Portuguese name Magellan. But the northern extent is not ascertained with equal precision. If Baffin's bay really exist, the northern limit may extend to 80 degrees, or perhaps to the pole. But amidst the remaining uncertainty, it will be sufficient to estimate the length of America from the 72d degree of north latitude to the strait of Magalhaens, or the 54th degree of south latitude; a space of 126 degrees, or 7560 geographical miles.

In South America the greatest breadth is from cape Blanco in the west to that of St. Roque in the east; which, according to the best maps, is 48 degrees, or 2880 g. miles. But in the north the breadth may be computed from the promontory of Alaska to the most eastern point of Labrador, or even of Greenland, which would add more than a third part to the estimate. In British miles the length of America may be estimated at 8800, and supposing the breadth of North America 3840 g. miles, it will, in British miles, be about 4400.

**DISCOVERY OF AMERICA.]** The first discovery of America is generally ascribed to Christoval Colon, or as commonly called, from the first Latin writings on the subject, Christopher Columbus. But as it is now universally admitted that Greenland forms part of America, the discovery must of course be traced to the first visitation of Greenland by the Norwegians, in the year 982; which was followed in the year 1003 by the discovery of Vinland, which seems to have been part of Labrador, or of Newfoundland. The colony in Vinland was soon destroyed by intestine divisions; but that in Greenland continued to flourish till maritime intercourse was impeded by the encroaching shoals of arctic ice. Though the first European colony in America was thus lost, the Danes asserted their right by settlements on the western coast, called New Greenland, to distinguish it from the original colony on the eastern shores, or what is called Old Greenland.

Greenland continued to be well known; and, as many English vessels failed to Iceland in the fourteenth and fifteenth centuries, it is probable that this part of America was not wholly unvisited by them.

The chief epochs of American discovery are:

**A.D. 982.** Greenland discovered by the Norwegians, who planted a colony.

**1003.** Vinland, that is a part of Labrador or Newfoundland, visited by the Norwegians, and a small colony left, which, however, soon perished.

After this there seems a long pause, for no farther discovery in America has hitherto been traced, by the utmost exertion of learned research till the time of Colon.

**1492.** Colon sails from Spain, in quest of the new world, on Friday the 3d day of August. On the 1st of October he was, by his reckoning, 770 leagues W. of the Canaries. His men began to mutiny, and he was forced to promise to return in three days, if land did not appear. Fortunate prelages soon arose, as land birds, a cane newly cut, a carved piece of wood,

wood, and the symptoms indicated the approach of the 11th of October. The night had been observed in the most ship. When appeared, two leasulation, and eColon was the who regarded both sides being

This first discovery better known by mariners,) being afterwards discovered on his return, he

**1493.** The first voyage, he discovered St. Domingo, but did not return till

**1498.** Third voyage, he discovered the St. river Orinoco. From there through a country the coast of the Caribbean Sea or St. Domingo in chains!

**1499.** Ojeda, a Spanish navigator, sailed to America, but did not do more than what Columbus had done. On his return, a man of science, chief pilot. On his return, yet appeared of another, has assigned to him the name of indelible earth.

**1500.** On his second voyage, he discovered Brazil, but did not do more than what Columbus had done. On his return, yet appeared of another, has assigned to him the name of indelible earth.

**1502.** Fourth voyage, he discovered the continent, and

**1513.** Vasco Nunez de Balboa discovered the grand isthmus, the grand waves, and took possession. This discovery secured America formed part of

It seems unnecessary to say more of the discovery in this quarter, but even in the twenty-six years the existence was



wood, and the branch of a tree with fresh red berries \*. These and other symptoms induced Colon to order the ships to lie to in the evening of the 11th of October, in the certainty of seeing land on the approach of daylight. The night was passed in gazing expectation; and a light having been observed in motion, the cry of *land! land!* resounded from the headmost ship. With the dawn of Friday, October 12th, a beautiful isle appeared, two leagues to the north. *Te Deum* was sung with shouts of exultation, and every mark of gratitude and veneration to the admiral. Colon was the first who landed, to the great amazement of the natives, who regarded their visitors as children of the sun, the astonishment on both sides being indescribable.

This first discovery of Colon he called San Salvador, but it is now better known by the native name of Guanahani, (the Cat island of our mariners,) being one of the group called the Bahama isles. Colon soon afterwards discovered Cuba and St. Domingo. After visiting the Azores on his return, he arrived at Lisbon on the 4th of March 1493.

1493. The second voyage of Colon, 25th September. Steering more southerly he discovered several of the Caribbee islands, founded a town in St. Domingo, being the first European settlement in the new world, and did not return till 1496.

1498. Third voyage of Colon toward the south-west, where he expected to find the Spice Islands of India. On the first of August he discovered an island, which he called Trinidad, not far from the mouth of the river Oronoco. From the estuary of this river he judged that it must flow through a country of immense extent; and he landed in several places on the coast of the continent now called Paria. He then returned to Hispaniola or St. Domingo: and in October 1500, was sent back to Spain in chains!

1499. Ojeda, an officer who had accompanied Colon in his second voyage, sails to America with four ships, but discovered little more than Colon had done. One of the adventurers was Amerigo Vespucci, a Florentine, a man of science, eminently skilled in navigation, who perhaps acted as chief pilot. On his return, Amerigo published the first description that had yet appeared of any part of the new continent: and the caprice of fame has assigned to him an honour above the renown of the greatest conquerors, that of indelibly impressing his name upon this vast portion of the earth.

1500. On his voyage to the East Indies, Cabral, the Portuguese admiral, discovers Brazil. This undesigned discovery, evinces that, independently of the sagacity of Colon, America could no longer have remained in obscurity.

1502. Fourth voyage of Colon, in which he discovers a great part of the continent, and particularly the harbour of Porto-bello.

1513. Vasco Nunez de Balboa descried, from the mountains of the isthmus, the grand Pacific Ocean; and he afterwards waded into the waves, and took possession of it in the name of the Spanish monarch. This discovery seems to have terminated the vain expectation that America formed part of Asia.

It seems unnecessary to trace with minuteness the other epochs of discovery in this quarter. In 1515 the continent was explored as far as Rio-de-Plata; but even in 1518 little was known concerning its western parts; and twenty-six years had elapsed since the first voyage of Colon, before the existence was rumoured of the empires, or kingdoms of Mexico and

\* Robertson's America, i. 114.

Peru. Hispaniola and Cuba still continued to be the chief seats of the Spanish power. In 1519 Cortez, with eleven small vessels, containing 617 men proceeds to the conquest of Mexico, which was accomplished in 1521. Magalhaens, at the same time having explored the Pacific Ocean, the discovery of the western coast of America became a necessary consequence. After many reports concerning the riches of Peru, that country was at length visited in 1526 by Pizarro in a vessel from Panama. In 1530 the conquest of Peru was begun by Pizarro, at the head of 36 cavalry and 144 infantry: and in ten years that empire was divided among his followers. In 1543 the first Spanish viceroy appeared in Peru.

In North America the epochs of discovery were more slow.

1497. Giovanni Gaboto a Venetian, called by the English John Cabot, who had received a commission from Henry VII. in 1495, in the view of tracing a nearer passage to India, discovered Newfoundland, so called by his sailors; and inspected the American shore as far as Virginia: but, this land forming merely an obstacle to his wishes, he returned to England.

1500. Corte de Real, a Portuguese captain, in search of a north-west passage, discovered Labrador.

1513. Florida was discovered by Ponce, a Spanish captain.

1534. Francis I. sending a fleet from St. Maloes, to establish a settlement in North America, Cartier the commander, on the day of St. Laurence, discovered the great gulph and river to which he gave the name of that saint. In the following year he sailed about 300 leagues up this noble stream to a great cataract; built a fort, and called the country New France.

1578. Sir Humphrey Gilbert obtained a patent for settling lands in America. In 1583 he discovered and took possession of the harbour of St. John, and the country to the south, but was lost on his return\*.

The voyage of Drake round the world served to kindle the enthusiasm of the English; and Raleigh obtained a patent similar to that of Gilbert.

1584. Two small vessels dispatched by Raleigh unfortunately bent their course to that country now called North Carolina, instead of reaching the noble bays of Chesapeak or Delawar†. These vessels returned to England with two of the natives; and Elizabeth assigned to this region the name of Virginia, an appellation which became laxly applied to the British settlements in North America, till it was confined to a different country from the original Virginia.

1583. Raleigh sent a small colony under the command of Sir Richard Grenville, who settled in the isle of Roanoke, a most incommodious and useless station, whence they returned in 1586. The account of this settlement, illustrated with excellent prints, was published under the auspices of Raleigh; who made other unsuccessful attempts to colonize the country, and afterwards resigned his patent to some merchants, who were contented with a petty traffic. At the death of Elizabeth, 1603, there was not one Englishman settled in America; and the Spaniards and Portuguese alone had formed any establishment on that vast continent.

The venerable Hakluyt, anxious that his countrymen should partake of the benefit of colonies, procured an association of men of rank and talents for this purpose; and a patent was granted by James I., April the 10th, 1606, that monarch being wholly unconscious that he was about to establish an independent and mighty empire. The bay of Chesapeak was discovered in 1607, and the first lasting settlement was founded at Jamestown in modern Virginia. Captain Smith who afterwards published

\* Hakluyt.

† Robertson's America, iv. 89.

an account of  
yet the colony  
rived in 1610;  
conduct firmly  
be tedious to d  
work, will sup

#### Names of places

Quebec -  
Virginia -  
Newfoundland  
New York }  
New Jersey }  
Plymouth -

New Hampshire

Delawar }  
Pennsylvania }  
Massachusetts } B

Maryland

Connecticut

Rhode island

New Jersey -

South Carolina  
Pennsylvania

North Carolina

Georgia -  
Kentucky -  
Vermont -

Territory N.W. }  
of Ohio river. }  
Tennessee on the S

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Baltic. On anothe  
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an account of his voyages, displayed remarkable spirit and enterprize : yet the colony was about to return to England when Lord Delawar arrived in 1610 ; and though he remained only a short time, yet his prudent conduct firmly established the settlement. The subsequent events would be tedious to detail, but the following table, extracted from Mr. Morfe's work, will supply the chief epochs.

| <i>Names of places.</i>          | <i>When settled.</i> | <i>By whom.</i>                                                                                                             |
|----------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Quebec - - -                     | 1608.                | By the French.                                                                                                              |
| Virginia - - -                   | June 10, 1610.       | By Lord Delawar.                                                                                                            |
| Newfoundland - -                 | June, 1610.          | By Governor John Grey.                                                                                                      |
| New York } - -                   | about 1614.          | By the Dutch.                                                                                                               |
| New Jersey }                     |                      |                                                                                                                             |
| Plymouth - - -                   | 1620.                | By part of Mr. Robinson's congregation.                                                                                     |
| New Hampshire - -                | 1623.                | By a small English colony near the mouth of Piscataqua river.                                                               |
| Delawar }                        |                      |                                                                                                                             |
| Pennsylvania }                   | - - 1627.            | By the Swedes, and Finlanders.                                                                                              |
| Massachusetts's Bay -            | 1628.                | By Captain John Endicot and Company.                                                                                        |
| Maryland - - -                   | 1633.                | By Lord Baltimore, with a colony of Roman Catholics.                                                                        |
| Connecticut - - -                | 1635.                | By Mr. Fenwick at Saybrook, near the mouth of Connecticut river.                                                            |
| Rhode island - - -               | 1635.                | By Mr. Roger Williams, and his persecuted brethren.                                                                         |
| New Jersey - - -                 | 1664.                | Granted to the Duke of York by Charles II., and made a distinct government and settled sometime before this by the English. |
| South Carolina - -               | 1699.                | By Governor Sayle.                                                                                                          |
| Pennsylvania - - -               | 1682.                | By William Penn, with a colony of Quakers.                                                                                  |
| North Carolina - -               | about 1728.          | Erected into a separate government ; settled before by the English.                                                         |
| Georgia - - -                    | 1732.                | By General Oglethorp.                                                                                                       |
| Kentucky - - -                   | 1773.                | By Col. Daniel Boon.                                                                                                        |
| Vermont - - -                    | about 1764.          | By Emigrants from Connecticut, and other parts of New England.                                                              |
| Territory N.W. }                 |                      |                                                                                                                             |
| of Ohio river. }                 | - 1787.              | By the Ohio and other companies.                                                                                            |
| Tennessee on the S. of Kentucky, |                      |                                                                                                                             |

Having thus mentioned the progress of the English settlements, as intimately connected with the discovery of the country, it may be necessary briefly to state the epochs of a few other remarkable discoveries, rather unconnected with these settlements. In 1585 John Davis, an experienced navigator, visited the western coast of Greenland, and explored the narrow sea, absurdly enough called Davis's Strait, which is as wide as the Baltic. On another voyage he proceeded as far north as the island of Diklo, and the opposite shores of Greenland, which he named London coast.

coast. He also discovered Cumberland strait; and upon the whole the three voyages of this navigator are of great consequence. His farthest point of discovery appears to have been Sanderfon's Hope, lat.  $72^{\circ}$ , whence turning to the west he was impeded by fields of ice\*.

In 1607, Hudson made his first voyage; and is said to have proceeded along the eastern coast of Greenland as far as lat.  $82^{\circ}$ , but probably not above lat.  $80^{\circ}$ , or the farthest extremities of Spitzbergen. On his voyage of 1610 Hudson discovered the Straits which bear his name; and that inland sea, approaching the Baltic in size, which has however been called Hudson's Bay.

In 1616 some public spirited gentlemen sent Captain Bilot to attempt a N.W. passage. William Baffin sailed with him as pilot: and this voyage is one of the most singular in the whole circle of geography. Far exceeding the utmost stretch of Davis, they discovered Horn Sound, Cape Dudley Digge, Hakluyt Island, Sir Thomas Smith's Sound, Cary's Islands, Alderman Jones's Sound, and Sir James Lancaster's Sound; all of them totally unknown to any preceding or succeeding navigator. Baffin thus pretended that he had, in an inland and a narrow sea, proceeded to the latitude of more than  $78^{\circ}$ , while Captain Cook, the most skilful of modern navigators, could not exceed  $72^{\circ}$ , in the open Arctic ocean, and Davis himself was stopped at  $72^{\circ}$ , in this very sea. It is remarkable that no doubt seems even now to be entertained concerning the existence of Baffin's Bay; while it is not improbable that he is merely a bold impostor, who wished to recommend himself to his employers, by the pretence of having imposed their names on grand and important features of nature, and by his numerous *Sounds*, to have laid a scheme for drawing more money from his protectors, for the investigation of a N.W. passage. Yet it would seem that strong doubts prevailed even at the time, for these supposed discoveries were entirely neglected.

Supposing that Baffin's Bay were dismissed from our maps, it is probable that Greenland is a continuation of the continent, and spread, to the W. about lat.  $75^{\circ}$ ; or it may be detached land, like New Holland, extending towards the pole. The general line of the Arctic sea in this quarter, as seen by Mr. Hearne 1772, and Mr. Mackenzie 1789, is about lat.  $70^{\circ}$ ; and it is not improbable that at a little higher latitude it coalesces with what is called Baffin's Bay; in which case Greenland is a detached land, and the country on the north of Hudson's Bay consists of several large islands in the Arctic ocean.

The discoveries of the Russians, and of Cook and Vancouver, seem to have completed those of the western coasts of America; and the journeys of Hearne and Mackenzie have imparted some idea of its confines on the Arctic ocean.

POPULATION.] The general population of this immense continent has been a subject of considerable discussion, some having supposed that it amounted to one hundred and fifty millions, while others infer that there are only fifteen millions; and the latter opinion seems to approach nearest to the truth. The ridiculous exaggerations of the old Spanish authors have swelled villages to cities, and thousands to millions. The savages in North America are thinly scattered, as in the extremities of Asia, where a thousand families constitute a nation. An American author, who has examined the subject with some attention, observes that the population of British America does not exceed 200,000; and supposing the savages an equal number, and the inhabitants of the Spanish part of North America

\* See Forster's *Voyages and Discoveries in the North*, p. 298, &c.

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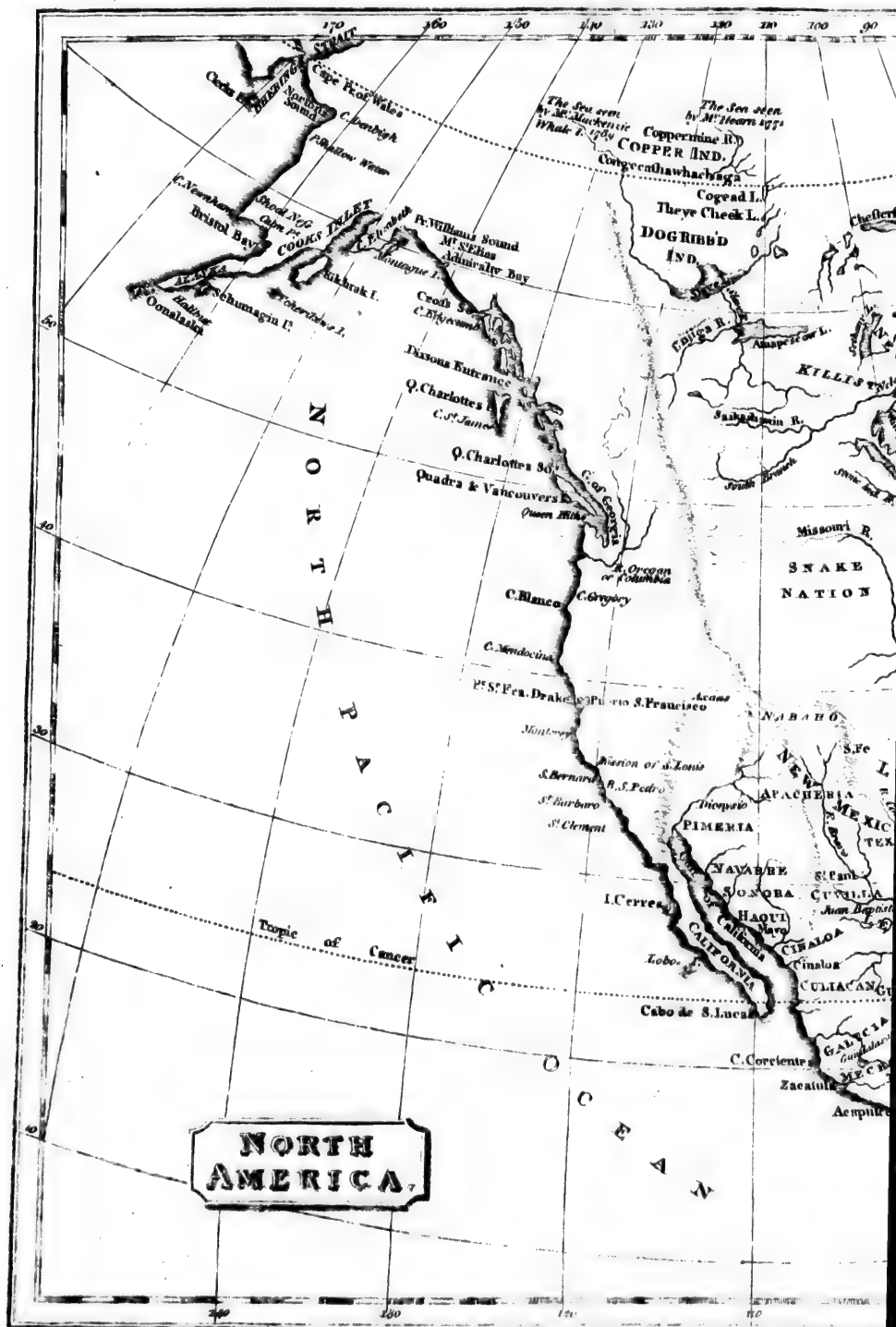
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100,000, these together will amount to half a million. Supposing the United States to have five millions, there will be five millions, and a half. The empire of Mexico, (which he ought to have included in North America,) from the enumerations made in some provinces, probably contains four millions of the native race, and about three millions of foreign extract. Hence there are in Mexico seven millions. Peru and Chili can scarcely contain more: and he estimates the other Spanish possessions in South America at two millions, with four millions for Brazil and Paraguay. The other parts are mostly wide deserts; so that he concludes that the inhabitants of South America do not exceed twenty millions; nor those of North America five millions and a half\*.

§ As Mexico unquestionably belongs to North America, seven millions added to five and a half will yield twelve millions and a half for that division; while South America, by the same calculation, will contain thirteen millions.

Since the publication of this work farther considerations have arisen on this important subject. In the account of the Spanish dominions in North America, compiled from the most recent and authentic information, it will be seen that the whole inhabitants of all denominations cannot exceed three millions, if an actual enumeration did not reduce them to two millions. Hence all North America cannot contain more than eight millions and a half. The settlements in South America are well known to be much less populous than New Spain, so that six millions will be found to be a most liberal allowance for that portion.

## NORTH AMERICA.

*Boundaries. — Original Population. — Languages. — Climate. — Inland Seas. — Lakes. — Rivers. — Mountains.*

BOUNDARIES.] THIS division of the new continent is bounded on the east by the Atlantic: and on the west by the Great, or Pacific Ocean. On the south it is understood to extend to the vicinity of Panama, the province of Veragua being universally considered as part of North America. The northern limits have not yet been clearly ascertained; but as it is improbable that a slip of land, on the N. W. of Hudson's Bay, should extend far to the north, the limit may probably be discovered about  $74^{\circ}$  or  $75^{\circ}$ . In the mean time  $72^{\circ}$  degrees may be safely assumed; whence to the southern boundary, about N. lat.  $7^{\circ} 30'$ , as marked in the map of Lacruz, there will be  $64\frac{1}{2}$  degrees, or 3870 g. miles; more than 4500 British. The breadth from the promontory of Alaska to the extreme point of Labrador, or the Cape of St. Charles, will exceed the length. If it should be discovered that Greenland is united to the arctic lands of America, as Kamtschatka is, for instance, to Asia, both the length and breadth will be greatly increased.

ORIGINAL POPULATION.] In pursuing the arrangement of topics, here adopted in the general description of a continent, the first which occurs is the ancient population; but our knowledge of the American languages

is still so imperfect that the subject is involved in great doubts. None of the native nations of America display the smallest trace of the oblique eyes, and other remarkable features by which the inhabitants of eastern Asia are distinguished. Far from this, Pallas, Lesséps, Tooke, and other skilful inquirers, have pronounced that the Techuks and Koriaks undoubtedly proceeded from America, as they have not one Asiatic lineament.

**LANGUAGE.]** It is to be regretted that neither in North nor South America, have the languages been compared, analysed, and classed, as has been done with regard to the numerous tribes subject to Russia and China. Upon one point only do investigators seem to be agreed, that the friendly and helpless people in the farthest north, called *Iskimos* by the German settlers, and in the French mode of spelling *Esquimaux*, are the same race with the *Samoieds* of Asia, and *Laplanders* of Europe.

The curious question concerning the population of America can only be duly examined after the various dialects have been compared with those of Africa; for to those of Europe, or Asia, they certainly bear no resemblance. To trace the population from the north of Asia, not to mention the positive contradiction of facts, would be an unnecessary restriction of the subject, as the progeny of so cold a latitude is ever found thinly scattered, feeble, and unenterprising; while if we consider the proximity of Africa, and the many copper coloured nations which are there to be found, there will be little reason to hesitate concerning the progress of the Africans to America, as well as to New Holland. This resource alone remains; for it has already been seen that the language of the Malays, who extended themselves so far to the east of Asia, has no connection with that of the Americans.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography has already been treated under the general head of America. The northern and central parts of this division are still imperfectly known. The number of immense lakes, a singular feature of North America, began gradually to be disclosed by the French, in the 17th century. Those of Carver, Hearne, and Mackenzie, have added greatly to former discoveries; but of the western regions little is known, except the shores.

**RELIGION.]** The ruling religion of North America is the Christian, under various forms in the United States; and the Roman Catholic in the Spanish dominions, and among the French of Canada. That of the native nations shall be briefly considered in the account of the chief tribes.

**CLIMATE.]** The climate of North America is extremely various, as may be conceived in a region extending from the vicinity of the equator to the arctic circle. In general the heat of summer, and the cold of winter, are more intense than in most parts of the ancient continent. Near Hudson's Bay Fahrenheit's thermometer has risen in July to 85, and sunk in January to 45 below 0. The predominant winds are here from the west; and the severest cold is from the N.W. The middle provinces are remarkable for the unsteadiness of the weather, particularly the quick transitions from heat to cold. Snow falls plentifully in Virginia, but seldom lies above a day or two; yet after a mild, or even warm day, James river, where it is two or three miles in breadth, has in one night been clothed with ice, so as to be passed by travellers. Such surprising alterations seem to proceed from the sudden change of the wind to the N.W. The provinces of South Carolina and Florida are subject to insufferable heat, furious whirlwinds, hurricanes, tremendous thunder,

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Few opportunities have yet arisen for accurate accounts of the climate in the western parts of North America. That of California seems to be in general moderate and pleasant, though somewhat incommoded by the heat of summer. In lat.  $59^{\circ}$  the land has a most barren and wintry appearance, even in June: the gloom is increased by frequent fogs, and the glaciers seem perpetual\*.

INLAND SEAS.] Among the inland seas of North America may be mentioned the gulfs of Mexico, California, and St. Lawrence; with Hudson's Bay, or rather Hudson's Sea, and what is called the strait of Davis, which is probably a sea of communication between the Atlantic and the arctic oceans. The existence of Baffin's Bay is doubtful, as already shewn; but there are several lakes of so great a size that they deserve to be distinguished by the name of seas, particularly lakes Superior, Michigan, and Huron, which constitute one piece of water, about 560 miles in length; and the great Slave Lake in the north is laid down as about 220 B. miles in length.

Of all these seas the gulf of Mexico is the most celebrated, as lying in a most favourable climate, and presenting at its entrance that grand archipelago of North American islands called the West Indies. From this gulf a singular current sets towards the N.E.; this current, called the gulf stream, passes to the banks of Newfoundland, and is supposed to proceed from the accumulation of waters by the trade wind. It is distinguished from other parts of the ocean by the gulf weed; is eight or ten degrees warmer; never sparkles in the night; and when it arrives in cool latitudes produces thick fogs.

The western shore presents the gulf of California, which seems an estuary of two large rivers. The jealous silence of the Spaniards concerning their American possessions affords but few materials for a proper illustration of their geography. The gulf of St. Lawrence is the well known estuary of a river of the same name, generally frozen from December to April. This noble gulf is closed by the island of Newfoundland, and by numerous sand banks, particularly what is called the Great Bank. This celebrated fishing station is more than 400 miles in length, by about 140 in breadth; the water being from 22 to 50 fathoms, with a great swell and frequently a thick fog. The chief fishery begins on the 10th of May, and continues till the end of September; the greatest number of cod fish, taken by a single fisherman, being twelve thousand, but the average is seven thousand: the largest fish was four feet three inches in length, and weighed forty-six pounds†. More than 500 English vessels commonly fish on the bank; and the number used sometimes to be equalled by that of the French, who had formerly a settlement in the neighbouring isle of Cape Breton.

There are also great fisheries on the banks which lie off the coasts of Nova Scotia, particularly on that called Saddle Island Bank, or rather from the French *Sable*, the Isle of Sand, which is in the shape of a bow, about eight leagues in length, with a narrow pond of sea water in the middle, filled every tide by a narrow inlet.

Hudson Sea may be considered as extending from the entrance of Hudson Strait, to its western extremity, that is from long.  $65^{\circ}$  W. to long.  $95^{\circ}$ , or thirty degrees, which in lat.  $60^{\circ}$  will be 900 g. miles, or about 1050 British, exceeding the Baltic in length as well as breadth. The

\* La Perouse, li. 67.

† Pennant, A. Z. cccvii.



shores are generally rocky and precipitous, and the climate is almost the perpetual abode of winter, the hot weather in June being brief though violent. This sea is far from abundant in fish, but the common whale is found; and the Beluga, or white whale, is taken in considerable numbers in June, when the rivers in the south have discharged their ice. Large sturgeons are also caught near Albany. The large tract of territory on the south of this sea is the property of the Hudson's Bay Company, whose chief profits are derived from furs. This sea has been repeatedly explored for a N.W. passage, perhaps as little to be expected as a passage from the Baltic into the Arctic ocean, or the Euxine. Chesterfield inlet is a singular strait stretching far to the west, but terminates in a magnificent lake of fresh water; communicating with this sea by what may be called a broad river, the adjacent land being level, rich in pasture and abounding with deer\*. But it is probable that in the N.E. Hudson Sea opens into the Arctic ocean, where the perpetual ice presents a complete barrier to commercial views.

The Gulf or Sea of Davis may be considered as part of the Sea of Hudson, and probably joins the Arctic ocean. What is called Baffin's Bay is laid down as extending from 46° W. long. to 94°, which, supposing the degrees only 16 g. miles, would yield a length of 768 g. miles; and the breadth on the west side is represented as little inferior. As this sea is perhaps wholly imaginary, it is unnecessary to enlarge on the subject: and it shall only be observed that the west coast of Greenland has not been explored beyond lat. 72°, or Sanderfon's Hope, and an old Danish settlement called Opernevig. In the midst of Baffin's Bay many maps present a large tract called James Island.

As in the general description of Asia, not only the Caspian Sea, but those of Aral and Baikal have been commemorated, so the vast lakes, above mentioned, may here be considered as detached inland seas.

**LAKES.]** The lakes Superior, Michigan, and Huron, in this point of view, form one large inland sea, which might be called the sea of Canada, or of Huron. This expansion of water, as already mentioned, is about 560 miles in length, and more than 180 at its greatest breadth: according to the French charts that part of this sea, which is called Lake Superior, is not less than 1500 miles in circumference. The greater part of the coast seems to consist of rocks and uneven ground, like those of the sea of Baikal. The water is pure and transparent; and the bottom generally composed of large rocks. There are several islands, one of which, called Minong, is about 60 miles in length. More than thirty rivers fall into this lake, some of them of considerable size, but the geography is far from being perfect. The banks of a river on the N.W. abound with native copper. The chief fish are sturgeon and trout: the latter being caught at all seasons, and said to weigh from twelve to fifty pounds†. This part of the Sea of Canada opens into the lake Huron, by the straits of St. Mary, about 40 miles in length, and in some places only one or two miles in breadth; with a rapid towards the N.W. extremity, which may however be descended by canoes, and the prospects are here delightful. The storms on this large expanse of water are as dangerous as those on the ocean, the waves breaking more quick, and running nearly as high. The circumference of that part called Lake HURON is said to be about 1000 miles. Another short strait leads into the third lake called MICHIGAN, also navigable for ships of any burthen. When the population of North America shall have diffused itself towards the west,

\* Pennant, A. Z. ccxy.

† Morse, 197.

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these lakes may become the seats of flourishing cities, and of arts and sciences now unknown in Europe. Their latitude corresponds with that of the Black Sea, and the gulf of Venice; nor are the rigours of the Baltic here to be apprehended. From the descriptions it does not appear that these lakes are ever impeded with ice.

The lake of Winnipeg or Winipic may also well aspire to the name of an inland sea\*: but it yields considerably to the great Slave lake or rather sea, a recent discovery, from which Mackenzie's river extends its course to the Arctic ocean. The Slave sea, according to Arrowsmith's maps, is about 200 miles in length by 100 at its greatest breadth. The geography of this lake is rather imperfect; and it is not improbable that other large lakes may be found in the western regions of North America, which remain unexplored.

The smaller lakes shall be briefly described in the divisions of territory to which they belong.

RIVERS.] In the ancient continent the rivers and mountains are usually confined within the limits of some great state, to which of course the description becomes appropriated. But in America these features are on so great a scale that they pervade immense territories, divided among distinct nations, whence it would be difficult to assign a just arrangement. The river of Amazons, for example, pursues a long course in Spanish America, and an equal extent through the Portuguese territory. The river Mississippi, or rather Missouri, belongs in part to the American States and in part to Spain. Amidst this uncertainty, it seems preferable to describe the chief rivers and mountains under the general heads of North and South America.

Length of course seems universally and justly considered as the chief distinction of a river, in which point of view the Mississippi is the most distinguished among those of North America; its source having already been traced to three small lakes above lat. 47°, and it enters the sea in lat. 29°, after a comparative course of about 1400 B. miles. Nay of late the sources of the Missouri (the chief stream) have been detected about 600 B. miles more remote. The account of this noble river shall be transcribed from a recent system of American geography, as the author must have had several opportunities of being well informed.

"The Mississippi receives the waters of the Ohio and Illinois, and their numerous branches from the east; and of the Missouri, and other rivers from the west. These mighty streams united are borne down with increasing majesty, through vast forests and meadows, and discharged into the gulf of Mexico. The great length and uncommon depth of this river, and the excessive muddiness and salubrious quality of its waters after its junction with the Missouri, are very singular. The direction of the channel is so crooked, that from New Orleans to the mouth of the Ohio, a distance which does not exceed 460 miles in a straight line, is about 865 by water. It may be shortened at least 250 miles, by cutting across eight or ten necks of land, some of which are not thirty yards wide.

"In the spring floods the Mississippi is very high, and the current so strong, that it is with difficulty it can be ascended; but this disadvantage is remedied in some measure by eddies, or counter currents, which are generally found in the bends close to the banks of the river, and assist the

\* According to Mr. Mackenzie, p. 111. this lake discharges itself into Hudson's Bay, by the river Nelson, an elongation of the Saskatchewan. See Arrowsmith's map of N. America, edition 1802.

ascending boats. The current at this season descends at the rate of about five miles an hour. In autumn, when the waters are low, it does not run faster than two miles: but it is rapid in such parts of the river as have clusters of islands, shoals, and sand banks. The circumference of many of these shoals being several miles, the voyage is longer, and in some parts more dangerous than in the spring. The merchandize necessary for the commerce of the Upper Settlements, on or near the Mississippi, is conveyed in the spring and autumn in batteaux, rowed by eighteen or twenty men, and carrying about forty tons. From New Orleans to the Illinois the voyage is commonly performed in eight or ten weeks. A prodigious number of islands, some of which are of great extent, intersperse that mighty river. Its waters, after overflowing its banks below the river Iberville on the east, and the river Rouge on the west, never return within them again, there being many outlets or streams by which they are conducted into the bay of Mexico, more especially on the west side of the Mississippi, dividing the country into numerous islands. Below the Iberville the land begins to be very low on both sides of the river, across the country; and gradually declines as it approaches nearer to the sea. The island of New Orleans, and the lands opposite, are to all appearance of no long date, for in digging ever so little below the surface you find water, and great quantities of trees.

"The nearer you approach the sea this truth becomes more striking. The bars that cross most of these small channels, opened by the current, have been multiplied by means of the trees carried down with the streams; one of which, stopped by its roots or branches in a shallow part, is sufficient to obstruct the passage of thousands more, and to fix them at the same place. Astonishing collections of trees are daily seen in passing between the Balize and the Missouri. No human force is sufficient to remove them, and the mud carried down by the river serves to bind and cement them together. They are gradually covered, and every inundation not only extends their length and breadth, but adds another layer to their height. In less than ten years time, canes, shrubs, and aquatic timber, grow on them, and form points and islands which forcibly shift the bed of the river.

"Nothing can be asserted with certainty respecting the length of this river\*. Its source is not known, but supposed to be upwards of three thousand miles from the sea as the river runs. We only know that from St. Anthony's falls, in lat. 45°, it glides with a pleasant clear current, and receives many large and very extensive tributary streams, before its junction with the Missouri, without greatly increasing the breadth of the Mississippi, though they do its depth and rapidity. The muddy waters of the Missouri discolour the lower part of the river, till it empties into the bay of Mexico. The Missouri is in fact the principal river, being longer, broader, and deeper than the Mississippi, and affords a more extensive navigation. It has been ascended by French traders about 12 or 1300 miles; and from the depth of the water, and breadth of the river at that distance, it appeared to be navigable many miles farther.

"The slime which the annual floods of the river Mississippi leave on the surface of the adjacent shores may be compared with that of the Nile, which deposits a similar manure, and for many centuries past has insured

\* The Mississippi has recently been explored by Pike to its source, and a map published by the American Government. The account of the journey has been published in London in the present year.

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the fertility of Egypt. When its banks shall have been cultivated as the excellency of its soil and temperature of the climate deserve, its population will equal that of any other part of the world. The trade, wealth, and power of America may at some future period depend, and perhaps centre, upon the Mississippi.

"The Ohio is a most beautiful river. Its current gentle, waters clear, and bosom smooth and unbroken by rocks and rapids, a single instance only excepted. It is one quarter of a mile wide at Fort Pitt; and at its junction with the Mississippi neither river is more than 900 yards across \*."

The length of the Ohio, with all its windings, from Fort Pitt to its junction with the Mississippi amounts to 1188 miles. The inundations commonly begin with April, and subside in July. A vessel drawing twelve feet water might safely navigate from Pittsburg to the sea. Two great rivers unite to form the Ohio, namely the Monongahela, and the Allegany, both of them subservient to navigation.

From the preceding ample description it appears that, setting aside the capricious distinctions of the savage tribes, the Missouri must be regarded as the chief river which constitutes what is called the Mississippi. Measured on the same merely comparative scale which has been adopted to give a general idea of the length of the rivers in Europe and Asia, the Missouri or Mississippi will be about 2000 miles in length. The great river of St. Lawrence is far inferior, being chiefly remarkable for its breadth. In South America the Marañon, or river of Amazons, measured on the same comparative scale, will be found to be about 2300, and the Rio de la Plata about 1900. The Kian Ku exceeds the Missouri and rivals the Marañon, which last is probably also rivalled by the Ob. Some deceptions have however arisen on this curious subject, as the large rivers in America have been computed by actual navigation of the whole, or a part, in which every winding is taken into the account; while the length of those in Asia has been merely assumed from the general appearance in maps, without due attention to the innumerable deviations. A favourable climate and other circumstances render the American rivers more navigable, the Ob being impeded by ice, and the Kian Ku by the alpine rocks of Tibet.

The noble river of St. Lawrence is universally regarded as the second in North America, being not less than 90 miles wide at its mouth, and navigable for ships of the line as far as Quebec, a distance of 400 miles from the sea. Near Quebec it is five miles in breadth, and at Montreal from two to four †. Though there be some rapids, yet this grand river may be considered as navigable to Kingston and the lake Ontario, 743 miles from the sea.

The other chief rivers in North America are the Saskatchewan, the Athabasca, the Unjiga or Mackenzie's river ‡, the Rio del Norte, which flows into the gulf of Mexico; that of Albany, which joins Hudson's Bay: Nelson river and Churchill river are also considerable streams which flow into that sea; but their geography is far from being perfect. The same observation must be extended to the Oregon, or great river of the west, which, confined by a chain of mountains, runs S. till by a western bend it join the Pacific. But the discovery of the western regions of America may disclose some considerable streams in that quarter.

The travels of Major Pike have already disclosed the long course of

\* Morie's American Geography.

† Weld, ii. 56. 8vo.

‡ See the article Native Tribes for farther details.

the Red river of Louisiana, which rises in the mountains on the N.E. of New Mexico. The river Akenza is also an important stream.

**MOUNTAINS.]** The mountains of North America are far from rivaling the Andes in the south. Some irregular ranges pervade the isthmus, but it seems mere theory to consider them as connected with the Andes, as they have neither the same character nor direction. In the isthmus there are also several volcanoes; but the natural history of Spanish America is extremely imperfect.

The centre of North America seems to present a vast fertile plain, watered by the Missouri and its auxiliary streams. On the west, so far as discovered, a range of mountains proceeds from New Mexico in a northern direction, and joins the ridge called the Stoney Mountains, which extend to the vicinity of the Arctic ocean. The Stoney Mountains are said to be about 3500 feet above their base, which may perhaps be 3000 feet above the sea. In general, from the accounts of navigators who have visited this coast, it seems to resemble that of Norway, being a wide alpine country of great extent; while the shore presents innumerable creeks and islands. This tract, from the Stoney Mountains and Mackenzie's river westwards to the source of the Oregon and Beering's strait, may perhaps contain the highest mountains in North America, when completely explored by the eye of science. On the north-east, Greenland, Labrador, and the countries around Hudson Sea, present irregular masses covered with eternal snow, with black naked peaks, resembling in form the spires of the Alps, but of far inferior elevation, mountains generally decreasing in height towards the pole.

The most celebrated mountains in North America are those called the Apalachian, passing through the territory of the United States from the S.W. to the N.E. According to the best maps, they commence on the north of Georgia, where they give source to many rivers running south to the gulf of Mexico; and to the Tenassee and others running north. There are several collateral ridges, as the Iron or Bald Mountains, the White Oak Mountains, and others; the exterior skirt on the N.W. being the Cumberland Mountains. The Apalachian chain thence extends through the western territory of Virginia, accompanied with its collateral ridges, the breadth of the whole being often seventy miles, and proceeds through Pennsylvania, then passes Hudson river; and afterwards rises to greater elevation, but seems to expire in the country of New Brunswick.

The Apalachian chain may thus extend about 900 g. miles, a length unrivalled by any European mountains, except the Norwegian Alps. In no chain perhaps are the collateral ridges more distinct; and a naturalist would at once pronounce that the central, or highest, must be granitic, the next schistose, and the exterior belts calcareous. The granite seems commonly to consist of white felspar, blueish or rather pellucid quartz, and black mica. The schistose band, generally metalliferous in other regions, here presents copper ore; and in Canada lead and silver are said to have been discovered. The lime-stone contains, as usual, many petrifications. The height of the chief summits does not appear to be precisely ascertained, but probably does not exceed 3000 feet above the sea; and they are often clothed with forests.

The late travels of the duke de Rochefoucault in North America present some valuable information concerning the orology\*. The primitive calcareous rock is mingled, in veins or banks, with the granitic. Near

\* See also the *Journal des Mines*, No. 44,

Philadel.

Philadelphia large veins of hornblende remarkable features approach nearest to careous; and the breccia, and argillaceous, surrounded with distance to the sea, Boston, the rocks schistose; but towards a considerable retired. This obtains in North America.

The mountains of North America, as usual, the kingdom of geography are far Darien, the Andes ridge called Sierra Nevada on the west of the considerable chain natural division by chain is called the N. and S., and of Of the nature and particular account. I descended a mountain and he adds that that region, the first of twenty leagues.

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**DIVISIONS.]** T  
ern and the southern Americans as continued them into nominate all those others inland states objections.

\* The cataract of Niagara  
† Voyage to California

Philadelphia large pieces of talc appear, instead of mica. There are also veins of hornblende and quartz, in the position of metallic veins. It is a remarkable feature in the mineralogy that the granitic mountains approach nearest to the sea, while at a greater distance the rocks are calcareous; and the red primitive limestone is sometimes covered with breccia, and argillaceous schistus. The lakes of Upper Canada are surrounded with calcareous rocks; while in Lower Canada, from Montreal to the sea, the granite predominates\*. Towards New York and Boston, the rocks are of a soft granite interspersed with limestone and schistus; but towards Carolina and Florida the granitic mountains are at a considerable distance from the sea, which seems gradually to have retired. This observing traveller is of opinion that the highest mountains in North America do not exceed 4 or 5000 feet.

The mountains in the isthmus, as well as those in the western part of North America, are certainly of far superior elevation. But of the isthmus, the kingdom of Mexico, and California, the natural history and geography are far from being clearly illustrated. In the province of Darien, the Andes, according to the best maps, seem to expire in the ridge called Sierra Tagargona, which may be said to be lost in the sea on the west of the gulf of Darien. On the west of that province a considerable chain passes north and south, which may be regarded as a natural division between the two great portions of America. This chain is called the Sierra de Canatagua. The ridges in Veragua also run N. and S., and on the west of that province is the volcano of Varu. Of the nature and height of the mountains in Mexico there is no particular account. Not far from Vera Cruz, Chappe D'Auteroche ascended a mountain of great height, which seems to have been volcanic†; and he adds that the mountain of Orifaba is said to be the highest in that region, the snowy summit being visible from Mexico at the distance of twenty leagues.

## THE UNITED STATES OF AMERICA.

### CHAPTER I.

#### HISTORICAL GEOGRAPHY.

##### *Divisions. — Boundaries. — Historical Epochs.*

DIVISIONS.] THESE fertile and flourishing states have by some writers been regarded under two divisions, the northern and the southern, but this classification is reprobated by patriotic Americans as containing the seeds of political division. Others have divided them into northern, middle, and southern: while others denominate all those that border on the ocean Atlantic states, and the others inland states. But a general table can alone be liable to no objections.

\* The cataract of Niagara falls over a fine white calcareous freestone.

† Voyage to California, p. 22. See Spanish dominions,



|                   |   |   |   |   |   |          |
|-------------------|---|---|---|---|---|----------|
| District of Maine | - | - | - | - | - | 151,719* |
| Vermont           | - | - | - | - | - | 154,465  |
| New Hampshire     | - | - | - | - | - | 183,858  |
| Massachusetts     | - | - | - | - | - | 422,845  |
| Rhode Island      | - | - | - | - | - | 69,122   |
| Connecticut       | - | - | - | - | - | 251,002  |
| New York          | - | - | - | - | - | 586,203  |
| New Jersey        | - | - | - | - | - | 211,149  |
| Pennsylvania      | - | - | - | - | - | 602,365  |
| Delaware          | - | - | - | - | - | 64,273   |
| Maryland          | - | - | - | - | - | 349,692  |
| Virginia          | - | - | - | - | - | 886,149  |
| Kentucky          | - | - | - | - | - | 220,960  |
| North Carolina    | - | - | - | - | - | 478,103  |
| South Carolina    | - | - | - | - | - | 345,491  |
| Georgia           | - | - | - | - | - | 162,684  |
| Tennessee         | - | - | - | - | - | 105,602  |
| Ohio              | - | - | - | - | - | 45,365   |
| Louisiana †       | - | - | - | - | - |          |

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5,291,147

The population was also thus estimated, under another form, in 1801, and must have considerably increased since that period.

|                                              | Free         |                | Total.    |
|----------------------------------------------|--------------|----------------|-----------|
|                                              | White Males. | White Females. |           |
| Under 10 years of age                        | 713,825      | 725,768        | 1,439,593 |
| 10 and under 16                              | 343,205      | 323,465        | 666,670   |
| 16 and under 26, including heads of families | 393,074      | 401,811        | 794,885   |
| 26 and under 45, ditto                       | 432,531      | 405,485        | 838,016   |
| 45 and upwards, ditto                        | 262,785      | 354,727        | 517,512   |
|                                              | 2,145,420    | 2,111,256      | 4,256,676 |

All other free persons, except Indians not taxed

109,335

Total Whites

4,366,011

Slaves

894,452

5,260,463

**BOUNDARIES.]** The eastern boundary is the Atlantic Ocean, and the western the great river Mississippi, which is considered as a limit of Spanish America †. On the north, an ideal line, pervading the great lakes of

\* The numbers are from the Census 1801, including the slaves, being the last enumeration which has been made.

† The inhabitants of Louisiana, are 42,375, including 12,920 slaves. Account of Louisiana, 1804. The district of Columbia, and the Mississippi and Indiana territories are not included. The population of Upper Louisiana is only estimated by Volney at about 2,200 persons. The banks of the Missouri are already colonized to the distance of about forty miles above its junction with the Mississippi by more than 3000 inhabitants, and the number is continually increasing. Mich. 119.

‡ But Louisiana (see the Spanish settlements) is now regarded as part of the United States.

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Canada, is continued the fourth of M mountains N. E. which falls into about lat. 31°, West and East 1

The greatest northern part, v shores of the A Canadian lakes square acres ha with water being acres.

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2. In 1773 an by the Americans

3. The tea sen was thrown into th March 1774, and Bay.

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Canada, is continued along the river St. Lawrence to lat.  $45^{\circ}$ , not far to the south of Montreal, when it passes due east, and follows a chain of mountains N. E. and afterwards diverges S. E. to the river St. Croix, which falls into the bay of Fundi. On the south a line, merely arbitrary, about lat.  $31^{\circ}$ , divides the United States from the Spanish dominions of West and East Florida.

The greatest extent of the United Territory is from east to west, in the northern part, where it exceeds 1300 B. miles; and the line along the shores of the Atlantic nearly corresponds; but the breadth from the Canadian lakes to the southern limit, is about 1000 B. miles. The square acres have been computed at 640 millions; and those covered with water being supposed 51 millions, there will remain 589 millions of acres.

[ORIGINAL POPULATION.] The original population of this extensive and flourishing country consisted of several wild and rude tribes, whose denominations and memory have almost perished, but some idea of their manners shall be given in describing the native nations. The progress of the English colonies has been already detailed; and there are numerous descendants of the Germans, Dutch, and Swedes, who formed considerable settlements in this region. After the first ineffectual colony planted by Raleigh, the most important events in the progressive geography were the discoveries of the noble bays of the Chesapeake and Delaware, while the northern lakes, and many other grand features of nature, were disclosed by the French settlers in Canada.

[HISTORICAL EPOCHS.] Among the chief historical epochs of the United States must be classed their respective origins, as above explained; together with the leading occurrences in that contest which terminated in the independence of the United States.

1. The Stamp Act, passed in 1765, is considered as the first attempt to raise a supply of British revenue from North America; but by the firm opposition of the colonies it was repealed in 1766. Similar attempts of a more oblique nature were alike unsuccessful; and in 1770 the duties were taken off, except threepence a pound on tea.

2. In 1773 an armed schooner stationed off Rhode Island was burnt by the Americans, the first act of open outrage.

3. The tea sent by the East India Company to the port of Boston was thrown into the sea. This led to what is called the Boston Port Bill, March 1774, and the act for altering the government of Massachusetts Bay.

4. Deputies met at Philadelphia, 26th October 1774, constituting the first Congress.

5. Other acts of the British parliament, 1775, inflamed the discontents, and the civil war commenced with a skirmish between the British troops and American militia at Lexington. The battle of Bunker's Hill, or rather Breed's Hill, was fought on the 17th June, 1775.

6. On the 4th of July 1776, the American congress published their solemn declaration of independence.

7. On the 30th January 1778, the king of France concluded a treaty with the United States.

8. The treaty of peace, 30th November 1782, by which the independence of the United States was solemnly acknowledged, after a struggle of seven years.

9. The constitution of the United States having been found imperfect, a new plan was submitted to the several states and received their approbation. On the 30th of April 1789, George Washington was inaugurated president.

president of the United States. The resignation and death of that illustrious man, and the short contest with the venal directory of France, are incidents which are fresh in the memory of every reader.

## CHAPTER II.

### POLITICAL GEOGRAPHY.

*Religion. — Government. — Laws. — Population. — Army. — Navy. — Revenue. — Political Importance and Relations.*

**RELIGION.]** THE religion of the United States of America is the reformed system of Christianity; but every sect is liberally treated with universal toleration, or rather equal independence. It would be infinite to enumerate the various denominations, tenets, and new doctrines, which prevail in the several states; but from the following account of those in Massachusetts and Pennsylvania, some judgment may be formed of the whole. Mr. Morfe enumerates the sects in Massachusetts in the following order :

| Denominations.        | Number of Congregations. | Supposed number of each denomination. |
|-----------------------|--------------------------|---------------------------------------|
| Congregationalists *, | 400                      | 277,600                               |
| Baptists,             | 84                       | 58,296                                |
| Episcopalians,        | 16                       | 11,104                                |
| Friends, or Quakers,  | 10                       | 6,940                                 |
| Presbyterians,        | 4                        | 2,776                                 |
| Universalists,        | 3                        | 1,388                                 |
| Roman Catholics,      | 1                        | 694                                   |
|                       | 517                      | 358,798                               |

In Philadelphia the places of public worship are thus numbered :

|                                 |   |                         |   |
|---------------------------------|---|-------------------------|---|
| The Friends, or Quakers,        | 5 | The Swedish Lutherans,  | 1 |
| The Presbyterians and Seceders, | 6 | The Moravians,          | 1 |
| The Episcopalians,              | 3 | The Baptists,           | 1 |
| The German Lutherans,           | 2 | The Universal Baptists, | 1 |
| The German Calvinists,          | 1 | The Methodists,         | 1 |
| The Catholics,                  | 4 | The Jews,               | 1 |

**GOVERNMENT.]** The government of the United States is vested, by the constitution of 1789, in a president and two councils. The president is chosen for the term of four years.—The senate or superior council consists of two senators from each state, chosen every six years. The house of representatives is elected every second year, and is not to contain more than two hundred members, each representing, according to the progress of the population, from 33,000 to 50,000 inhabitants. The legislative power is vested in the two councils: while the executive is lodged with the president; and a vice-president is also chosen to supply his place, on any emergency. The president commands the army and navy, and may pardon offences, except in case of impeachment: he makes treaties with

\* These are moderate Independents, who suppose that each congregation possesses complete ecclesiastical power; but profess strict unity with other congregations.

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\* By the return of  
two, the total was 5,12  
† The dollar is equal  
fours millions sterling

the consent of two-thirds of the senators, who are also to advise in the appointment of ambassadors. Particular regulations are formed to prevent any distinct state from assuming offices which belong to the community, such as forming treaties, issuing letters of marque, and the like acts of independent sovereignty, which might endanger the union of the whole. The judicial power is lodged in one supreme court, and in such inferior courts as the congress may ordain, the judges holding their offices during their good behaviour. Each province has also its peculiar government, consisting commonly of a senate and house of representatives, annually chosen.

**Laws.]** The laws seem in general to correspond with those of England, handed down by their ancestors. Different states have also particular ordinances and customs, which are permitted when they do not disturb the general concord. But a code of laws, to be held in universal observance, might afford a fair object of ambition.

**POPULATION.]** The population of these extensive territories was formally estimated, by order of congress, in 1790, and found to be 3,930,000, exclusive of the inhabitants N.W. of the Ohio, supposed to be 20,000. It is inferred that the population is doubled every twenty years, in which case the population may now amount to about six millions. The number of slaves in 1790 was 697,647, and has probably been little increased, as many emancipations have taken place, and the slave trade is discontinued\*.

**ARMY.]** A small military force is maintained for the sake of supporting public order, and upwards of five thousand were raised for three years, for the defence of the frontiers. But a standing army is deemed incompatible with the republican government; and the strength of the states is computed from the militia, which is stated by Mr. Morfe at 700,000. Yet his mode of reasoning is vague and inconclusive; and it would seem more agreeable to the usual rules to estimate the utmost effective force at 150,000, a number sufficiently formidable to subdue the whole continent, and to set foreign invasion at defiance.

**NAVY.]** The navy of the United States is still of less consequence, though a few ships were equipped during the recent short dispute with France. In the course of a century or two, it is probable that the maritime spirit of their progenitors will be displayed, and that the American fleet will rival any in Europe.

**REVENUE.]** The revenue of the United States is derived from the duties on imports and tonnage, and some small taxes. This revenue is about twelve millions of dollars†, the expenditure about seven. The national debt is supposed to amount to sixty millions of dollars. The war with the Indians, which terminated in 1795, is said to have cost the States one million of dollars yearly; and was certainly conducted with little spirit or decision, while in found policy, and at less expense, it might have been terminated at one effort.

**POLITICAL IMPORTANCE.]** The political importance of the United States will depend, in a great measure, upon the individual character, as the government is not sufficiently strong to use coercion even for the general prosperity. The most impartial travellers have been impressed with regret and astonishment at the spirit of selfishness and avarice, which too

\* By the return of the population of the United States, printed at Washington 1802, &c. the total was 5,172,312, the slaves being included, whose number was 875,626.

† The dollar is equal to 4s. 6d. sterling. Imlay, 189, estimates the American debt at sixteen millions sterling; and the funds bore an interest of about six per cent.

universally prevails, and which crushes or impedes every great or noble exertion. It is however to be hoped and expected that this character will not become indelible; but that after the fathers have laid up a sufficient stock of wealth, their posterity will divert their attention to more sublime pursuits. The war with the Indians, which ought to have impressed all America with a deep sense of the power of the States, appears to have been pallied by individual avarice, and a complete negligence of national reputation. The equipment of a few frigates against France was also a mighty effort; and the sum allotted for six frigates scarcely supplied three. The most candid observer, and even the warmest admirer of the new republic, must allow with regret that its political importance can only be weighed by posterity.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Literature. — Universities. — Cities. — Edifices. — Roads. — Inland Navigation. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners and customs of the inhabitants of the United States may be conceived to differ little from those of their British ancestors, except in a few local particularities. Travellers have however observed, even in Philadelphia, a want of urbanity, and a spirit of coldness and reserve, which renders society melancholy. In general the common people shew their independent spirit by surliness of behaviour, and a contempt of that intercourse of trifling civilities, which render life amiable.—Various religious doctrines, some of them of very recent invention, seem to conspire with the love of money, to throw an additional gloom over the character. The gay festivals of the ancient republicans, and the cheerful and happy manners of the Swiss, seem equally unknown; and in general there is little taste for those amusements which are connected with the arts and sciences. In some provinces gaming is said to be too prevalent: but the deepest game consists in selling unsettled lands at advanced prices; a species of stock-jobbing which, like a Mississippi scheme, stimulates the avarice of many.

**LANGUAGE.]** On the termination of the war with England, the rancour of a few proposed the adoption of a new language; and a wit recommended the Hebrew. The English however remains; and is generally spoken with great purity, and free from provincial barbarisms. Yet the American writers sometimes adopt expressions and idioms unknown to the British classics.

**LITERATURE.]** The books published in British America were chiefly of a religious kind. But before the emancipation, Franklin had become a distinguished name in letters; and many authors of considerable merit have since arisen in the United States. Literary academies publish their transactions; while magazines and newspapers contribute to the popular diffusion of useful knowledge. Education seems also to attract more and more attention, and to be conducted in numerous seminaries with the most laudable care. In the northern provinces, called New England, schools are established in almost every township. Even the Catholics have a college in Maryland.

**UNIVERSITIES.]** In New York a college was founded, by an act of the

the British parliament is said to be founded. The Hall was founded, estimated at eight College, arose a society for promoting many grammar schools in 1717, and rebuilt in Pennsylvania there are philosophical Societies and in 1786 two universities in Pennsylvania was founded united with the colleges of this province the Harvard University in 1638, and is in America. The provinces boast of knowledge, the Dartmouth College savages; but has in the northern province

Nor are the fine of arts was founded

**CITIES.]** With the United States may be said to precede Philadelphia, before proceeding to describe that of the States:

“The city of Virginia the states of Virginia established as the city, which is now and the eastern border miles up each, and convenience, salubrious limits of the city and gins wells, water never failing stream collected for the use

“The eastern border in America, four miles above its adjoining the city, mak, although only above the junction of the river harbour; as an inlet opposite to, and

“The grand avenue places, are from 15

the British parliament 1754, which is now called Columbia College, and is said to be frequented by more than one hundred students. Nassau Hall was founded at Prince Town, in New Jersey, the students being estimated at eighty. In 1782 another foundation, called Washington College, arose at Chestertown in Maryland. Even in Tennessee there is a society for promoting useful knowledge, besides an academy, with many grammar schools. Yale college in Connecticut, was founded in 1717, and rebuilt in 1750; maintaining about 130 students\*. In Pennsylvania there are many literary societies, particularly the American Philosophical Society, formed in 1769; and which has published in 1771 and 1786 two volumes of their transactions. The University of Pennsylvania was founded at Philadelphia during the war; and, being since united with the college, has become a respectable seat of learning. In this province there are also Dickenfon College and Franklin College. Harvard University, in the province of Massachusetts, was founded in 1638, and is generally regarded as the chief foundation in North America. The university of Georgia is at Louisville; and some other provinces boast of other colleges, or rather considerable academies. These detached institutions seem better calculated for the promotion of knowledge, than one or two great universities. In New Hampshire, Dartmouth College was founded in 1769, for the instruction of the savages; but has since become an ample endowment for the youth of the northern provinces.

Nor are the fine arts neglected, for in the winter of 1803, an academy of arts was founded at New York.

CITIES.] With regard to size and consequence, the cities of the United States may be thus arranged; Philadelphia, New York, Boston, Baltimore, Charlestown; but in relation to commerce New York precedes Philadelphia, and Charlestown ranks above Baltimore. Before proceeding to a brief account of these cities, it will be proper to describe that of Washington, the intended metropolis of the United States:

"The city of Washington, in the territory of Columbia, was ceded by the states of Virginia and Maryland to the United States, and by them established as the seat of their government, after the year 1800. This city, which is now building, stands at the junction of the rivers Patomak and the eastern branches, latitude 38° 53' north, extending nearly four miles up each, and including a tract of territory exceeded, in point of convenience, salubrity, and beauty, by none in America. Within the limits of the city are a great number of excellent springs; and by digging wells, water of the best quality may readily be had. Besides, the never failing streams that now run through that territory may also be collected for the use of the city.

"The eastern branch is one of the safest and most commodious harbours in America, being sufficiently deep for the largest ships for about four miles above its mouth, while the channel lies close along the bank adjoining the city, and affords a large and convenient harbour. The Patomak, although only navigable for small craft, (excepting about half a mile above the junction of the rivers,) will nevertheless afford a capacious summer harbour; as an immense number of ships may ride in the great channel opposite to, and below, the city.

"The grand avenues, and such streets as lead immediately to public places, are from 130 to 160 feet wide, and may be conveniently divided



into foot ways, a walk planted with trees on each side, and a paved way for carriages. The other streets are from 90 to 110 feet wide \*."

The banks of the Patomak present inexhaustible quarries of excellent free-stone, harder than that of Portland; and at no great distance are found slate, paving-stone, and lime-stone, and it is said excellent coal.

The city of Philadelphia is supposed to contain about 50,000 inhabitants, and was designed by William Penn, the first proprietor and founder of the colony called Pennsylvania, in 1683. The form is an oblong square, extending about two miles east and west between the rivers Delaware and Schuylkill, or rather on the western bank of the former river. This city is neatly constructed, the chief streets being straight avenues 100 feet in breadth, paved with pebbles, and the foot-path with brick. The charter of incorporation, granted by Penn in 1701, was singularly aristocratic, being copied from that of Bristol in England; but the general assembly of the province, in 1789, formed a liberal plan; and the government of the city, the prisons, &c. may now be regarded as surpassing any in the world. There are many humane institutions, and a large public library. The amiable and tolerant character of the Quakers, differed widely from that of the fanatic settlers in New England: at present they do not exceed one-fourth part of the inhabitants; and their aversion to the elegancies and luxuries of life is overcome by the wishes of the majority. Gay equipages are not rare in the streets of Philadelphia, and the theatre begins to be frequented.

New York, the capital of the province of the same name, is situated on a promontory at the mouth of Hudson river, a noble and picturesque stream. The number of inhabitants in 1790 was 33,131, this city being about two miles in length and four in circumference. It was greatly injured during the war, but has since been enlarged and improved. The chief edifice is the Federal Hall, a neat building of Grecian architecture, in which Washington was installed president of the United States. In commerce, New York is considered as the chief city in North America, the harbour admitting ships of any burthen. It is also the gayest city, and is thought to exceed Charlestown in South Carolina. In public institutions for the promotion of education, the arts, sciences, &c. it however appears, by Mr. Morfe's account, to be deficient.

Boston was formerly regarded as the capital of the province of Massachusetts, and of all these northern provinces called New England. Its trade has however since declined, though it is still far from inconsiderable. This city is supposed to contain about 20,000 inhabitants. The harbour on a large bay is excellent, and capacious enough to receive five hundred ships at anchor; with a narrow entrance commanded by a castle. There is a pier about 600 yards in length; and the harbour is interspersed with about forty islands, which afford excellent grain and pasturage. This city also suffered considerably by the war, but has been improved, and the public buildings are, in that part of the world, deemed elegant. Boston does not exceed two miles in length, being of a circular form; and on the west is the mall or public walk, planted with rows of trees. On the same side is Beacon hill, on which a monument has been erected, commemorating some of the most important events of the war. The fanatical spirit of this city seems gradually to subside; and it is even already ranked by some among the most pleasing and sociable in the United States.

\* Morfe, 446.

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NEW ORLEANS New Orleans de tion is such as to navigation of th inland settlemen the mouth of M ships being 170 founded in the regency of the D three principal an Chartres. Town so dreadful a con mained. It has 1400 houses and works are bad, a for commerce a mouth of the Mi and the British, portant settlemen produce of all the four, Mississippi,

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Annapolis, in though Baltimore wealthiest town of the mouth of the inconsiderable. 7 but the houses ar in the centre, wh to the whole town

Savannah was more than 800 in two houses in 17 ment is Louisville



Baltimore in Maryland stands on the north side of the river Patapsco, which may rather be regarded as a creek of the great bay of Chesapeake, and has rapidly risen to its present consequence. The situation is rather low, but it has been rendered by art tolerably salubrious. In 1790 the number of inhabitants was 13,503.

Charlestown, in South Carolina, is situated at the confluence of Ashley and Cooper rivers, which are large and navigable, and open into a capacious estuary. The situation is esteemed remarkably healthy, though low, being refreshed by the sea breeze. In 1791 there were 16,359 inhabitants, of whom 7684 were slaves. This city is celebrated for easy and social manners.

Such are the principal cities of the United States; but it may not be improper to add some account of a few others, interesting from their situation or other circumstances.

NEW ORLEANS.] Since the acquisition of Louisiana, the city of New Orleans deserves great attention in every point of view. Its situation is such as to command, in a great degree, the wide and important navigation of the river Mississippi, so essential to the prosperity of the inland settlements. In the year 1802, not less than 268 vessels entered the mouth of Mississippi, of which eighteen were armed; the American ships being 170, and the Spanish 98. The city of New Orleans was founded in the time of the Mississippi scheme, about 1720, under the regency of the Duke of Orleans. The plan is regularly disposed, the three principal and parallel streets being those of Orleans, Bourbon, and Chartres. Towards the river there is a noble quay. In the year 1788 so dreadful a conflagration happened, that of 1100 houses not 200 remained. It has since been completely rebuilt, and now contains about 1400 houses and 10,000 inhabitants. In 1793 it was fortified, but the works are bad, and could offer but a feeble resistance. The advantages for commerce are incalculable. Though situated 105 miles above the mouth of the Mississippi, a week's sail will convey its trade to Mexico, and the British, French, and Spanish West Indies. Nor can this important settlement fail to become the grand mart and receptacle for the produce of all the prodigious extent of a valuable country on the Missouri, Mississippi, and Ohio.

Of Virginia, the chief port is Norfolk, but Richmond is the seat of the government, containing about 500 houses and 4000 inhabitants. It is partly situated on a hill, which also presents the state house. It stands on the river James, near the Rapids, which extend for seven miles, but the inconveniences are remedied by a canal. A bridge of great length, more than 1000 feet, partly raised on boats, partly on timber piers filled with stone, passes to Manchester, on the other side of the river.

Annapolis, in Maryland, is still regarded as the capital of that state, though Baltimore be a more considerable city. Annapolis is the wealthiest town of its size in the United States. Though situated at the mouth of the river Severn, on a healthy spot, its commerce is now inconsiderable. The number of inhabitants does not exceed 2000, but the houses are generally large and elegant. The state house stands in the centre, whence the streets diverge so as to impart a circular form to the whole town.

Savannah was formerly the capital of Georgia, but contained little more than 800 inhabitants. It was succeeded by Augusta, which from two houses in 1780, rose to 200 in 1787. The new seat of government is Louisville, on the bank of the river Ogishie, about 70 miles

from its mouth. The records and legislature were transferred thither in 1795.

The new towns in the interior may deservedly excite curiosity. Pittsburg, which stands at the junction of the rivers Alleghany and Monongalia, commands the navigation of the noble river Ohio, and is already a town of considerable trade; the houses, which are built of brick, amounting to more than 400. Within ten years, this town has increased ten-fold, and is now a receptacle of the trade between Philadelphia, Baltimore, and the western states. Some vessels with three masts, carrying about 250 tons, have here been constructed, and pass by the Ohio and Mississippi to the West Indies.

Marietta did not exist 15 years ago, but now contains 200 houses, and is the chief establishment on the Ohio. In the same state, recently admitted into the union under the name of the state Ohio, is the town of Gallipoli, which contains about a hundred houses, the inhabitants being mostly French.

Knoxville is the chief town in Tennessee, and contains about 200 houses. Lexington, the chief town in Kentucky, contains about 3000 inhabitants. In 1786 the inhabitants were only computed at 900.

**EDIFICES.]** The chief edifices are commonly the halls in which the states of each province assemble. The Capitol, and the house of the president, in the new metropolis, designed, it is believed, as well as the plan of the city, by L'Enfant, are considered as edifices of the most splendid promise.

**INLAND NAVIGATION.]** Little occasion has hitherto arisen for opening any canals for inland navigation, as the numerous great rivers have been found sufficient for the purposes of intercourse. No country in the world can boast of superior means of inland commerce by the great river Missouri, and many other navigable streams, not to mention lakes of prodigious extent. A canal, it is believed, is now opened between the rivers Schuylkill and Susquehanna, and others are projected. The roads also begin to be improved, and several bridges have been erected, some of which, in timber, are of considerable extent.

**MANUFACTURES.]** The manufactures of the United States may mostly be considered as still in their infancy, as they were accustomed to be supplied by Great Britain; and though the bond of authority be broken, the commercial connexions remain. The chief manufactures are tanned leather, and dressed skins; various common works in iron and in wood; ships, for which Boston was celebrated; with several articles of machinery and husbandry. Cables, sailcloth, cordage, twine, packthread, bricks, tiles, and pottery, paper of all kinds, hats, sugar, snuff, gunpowder, are also American manufactures; with some utensils in copper, brass, and tin; clocks, and mathematical machines, and carriages of all descriptions. The domestic manufactures, in coarse cloths, serges, flannels, cotton, and linen goods of several sorts not only suffice for the families, but are sometimes sold, and even exported; and in most districts a great part of the dress is the product of domestic industry. Good wines have been made by French settlers on the Ohio from various wild grapes, which grow spontaneously in these regions. The maple sugar is prepared in the northern and middle states, and is deemed by many equal to that from the cane. The recent commotions in Europe have probably driven many able manufacturers to America, where machinery is particularly valuable, as the price of labour is exorbitant.

**COMMERCE.]** The chief commerce of the United States is still centered in British ports, though France had a considerable share; and some

trade be also carried. That with the East in 1792 amounted to articles being pot and whale oil and whale blubber, tar, turpentine, planks, boards, estimated at 297,468 50,000 seamen.

Upon the termination of the war, the ports were diminished to what they were previous to the year 1792, the domestic trade being at 13,594,070 tons, on the 31st of December, 1792, the ports for the year 1793, 1780 dollars from New York, those to Great Britain were about 15,000 only 5,000,000. Ending on the 1st of 93,020,513 dollars Spain 13,000,000.

The bank of Philadelphia has been successful: its capital stock being 100,000 dollars or two pounds one quarter, the gold dollar, with the halfpenny worth nearly sixpence in copper is equal to the English halfpenny farthing.

The total amount of 191,092 pieces, namely 43,597 eagles, half eagles, and half cents. The total

*Climate and Seasons. —  
— Lakes. — Mountains. —  
— Mineral Waters.*

**CLIMATE.]** The temperature of the climate varies from heat to cold, the west is violently cold. In the plains on the east it is moderate; and in some

trade be also carried on with Spain, Portugal, Holland, and the Baltic. That with the East Indies and Africa is inconsiderable. The exports in 1792 amounted to more than twenty-one millions of dollars; the chief articles being pot and pearl ashes, cotton, coffee, flax, dried and pickled fish, whale oil and whale bone, wheat, Indian corn, indigo, sheep, hogs, molasses, tar, turpentine, American rum, tobacco, furs, staves, shingles, planks, boards, and timber in general. The tonnage was in 1789 estimated at 297,468, and in 1798 at 800,000 tons, navigated by nearly 50,000 seamen.

Upon the termination of the unhappy war in Europe, 1802, the exports were diminished by the loss of the carrying trade; yet during the year previous to the first of October 1803, amounted to 55,800,033 dollars, the domestic articles being estimated at 42,205,961, and the foreign at 13,594,072. From Mr. Gallatin's report it appears that the tonnage, on the 31st of December 1802, was 864,500 tons. The exports for the year prior to the 1st of October 1800, amounted to 70,971,780 dollars: the highest from any particular state being those from New York, which amounted to 14,045,079. Of these exports, those to Great Britain were valued at 27,310,289 dollars; those to Spain were about 15,000,000; to the Hanse Towns 8,000,000; to France only 5,000,000. For the succeeding year, during the European war, ending on the 1st of October 1801, the exports were to the amount of 93,020,513 dollars; of which Great Britain received about 42,000,000, Spain 13,000,000, France 11,000,000.

The bank of Philadelphia was founded in 1787; and seems to have been successful: it is also called the bank of the United States, the capital stock being ten millions of dollars. The coinage consists of eagles in gold, with a half and quarter, the eagle being valued at ten dollars or two pounds five shillings sterling, thus exceeding by about one quarter, the golden mohur or Hindostan. In silver, besides the dollar, with the half and quarter, there are dimes or tenths of a dollar, worth nearly sixpence English, and half dimes or twentieths. The cent in copper is equal to the hundredth part of a dollar, or little more than the English halfpenny; while the half cent nearly corresponds with the farthing.

The total amount of the coinage, 1804, was as follows: silver 191,092 pieces, namely dollars, half and quarter, and dimes; gold 43,597 eagles, half eagles and quarters; copper 1,812,159 cents and half cents. The total value being 371,827 dollars.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons. — Face of the Country. — Soil and Agriculture. — Rivers. — Lakes. — Mountains. — Swamps. — Botany. — Zoology. — Mineralogy. — Mineral Waters. — Natural Curiosities.*

**CLIMATE.]** THE climate of the United Territories, as already mentioned, is chiefly remarkable for sudden transitions from heat to cold, and the contrary. The wind from the north-west is violently cold, as it passes a wide expanse of the frozen continent. In the plains on the east of the Apalachian chain the summer heats are immoderate; and in some places even ice will not preserve poultry or fish from putrefaction.

**putrefaction.** Towards the mountains the climate is salutary, even in the southern states. In the northern states the winter is longer and more severe than in England, but the summer heat more intense. A N.E. wind commonly attends rain, while on the west side of the Apalachian mountains a S.W. has that effect. In Georgia the winter is very mild, snow being seldom seen, and the east wind is there the warmest.

This excessive heat of the plains must be regarded as one cause of that fatal pestilential malady called the yellow fever, which first appeared at Philadelphia in 1793, and has since too frequently repeated its ravages in various cities of the commonwealth.

SEASONS.] The seasons in the United States generally correspond with those in Europe, but not with the equality to be expected on a continent, as, even during the summer heats, single days will occur which require the warmth of a fire. The latitude of Labrador corresponds with that of Stockholm, and that of Canada with France: but what a wide difference in the temperature! Even the estuary of the Delaware is generally frozen for six weeks every winter. Nor does the western coast of North America seem warmer than the eastern. The numerous forests, and wide expanses of fresh water, perhaps contribute to this comparative coldness of the climate, which may gradually yield to the progress of population and industry.

FACE OF THE COUNTRY.] The face of these extensive territories is not so minutely diversified as might have been expected, the features of nature being here on a larger and more uniform scale than in Europe. Nor are there any scenes of classical or historical reminiscence, which transport the mind to remote centuries, and impart a crowd of relative ideas. The abundance of timber, and the diversity of the foliage, contribute greatly to enrich the landscape; but it is here reputed a weed, and the planter seldom spares trees near his habitation, as the roots having had no great room to spread or penetrate, they would be dangerous during a violent wind. The landscape is less ennobled by lofty mountains than by rivers of great magnitude. The northern provinces called New England are generally hilly, as they approach the skirts of the Apalachian chain, which has, by no unfit similitude, been called the spine of the United Territory. The vales in these northern regions are thickly clothed with wood, and often pervaded by considerable rivers; and many romantic cascades are formed by rivulets falling from the rocks, while towards the shore the land is level and sandy. In Virginia, a central state, the Blue Mountains, and other ridges of the Apalachian, add great charms and variety to the prospect, which is farther enlivened by many beautiful plants and birds, particularly the humming bird, sucking the honey of various flowers, and rapidly glancing in the sun its indescribable hues of green, purple, and gold. Here a plain from 150 to 200 miles in breadth, reaching from the mountains to the sea, is studded with the villas of rich proprietors, the ancient hospitable country gentlemen of the United States. Similar levels appear in the Carolinas and Georgia. Beyond the Apalachian ridges extends another rich plain of amazing size, pervaded by the muddy waves of the Mississippi, which does not appear to be table land; but on nearly the same level with the eastern plain. In Kentucky the surface is agreeably waved with gentle swells, reposing on a vast bed of limestone; and a tract of about twenty miles along the Ohio is broken into small hills and narrow vales.

**SOIL.]** The foil, though of various descriptions, is generally fertile, often, on the east of the Blue Mountains, a rich brown loamy earth, sometimes a yellowish clay, which becomes more and more sandy towards the

the sea. Some salt meadows are found to the Apalachia some spots are sixty bushels a monly a bed of productive.

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the sea. Sometimes there are considerable marshes, and what are called salt meadows, and spots called barrens, which, even in the original forests, are found to be bare of trees for a considerable space\*. On the west of the Apalachian chain the soil is also generally excellent; and in Kentucky some spots are deemed too rich for wheat, but the product may amount to sixty bushels an acre: and about six feet below the surface there is commonly a bed of limestone. The vales in the northern states are also very productive.

AGRICULTURE.] In agriculture the Americans are well skilled, and are eager to adopt the advantages of English experience. The late great president Washington was himself an excellent farmer; and it is computed that at least three parts in four of the inhabitants of the United States are employed in agriculture. This free and vigorous yeomanry may well be regarded as the chief glory of any state; and commerce will import sufficient opulence to enable them to promote every possible improvement. Agriculture particularly flourishes in New England and Pennsylvania; and such is its progress, that the states are enabled, almost yearly, to increase the exportation of grain and flour. In 1786 Pennsylvania exported 150,000 barrels of flour; in 1789 no less than 369,618 barrels. Among the numerous products are wheat, rye, barley, buck wheat, oats, beans, peas, and maize, the last a native grain. In Virginia some rice is cultivated and is found to succeed well on the banks of the Ohio. The German spelt, a valuable product, is also sown in Pennsylvania; and in several provinces hemp and flax are considerable objects of agriculture. The culture of turnips, and some other vegetables common on English farms, seems as yet to draw little attention; but many cultivated grasses are sown. That invaluable plant the potatoe is a native of the country; as are several kinds of melon and cucumber. Hops are also cultivated: and it is almost unnecessary to add tobacco, a well known product of Virginia, which opulent province bears a considerable resemblance in culture and manners to our West Indian settlements. Orchards are favourite objects; and cyder is a common beverage in the northern and middle states. The excellent Newtown apple grows near New York. Peaches are greatly cultivated in Virginia, where the peach brandy is noted; and there are also excellent apricots and nectarines.

RIVERS.] The chief rivers of the United States have already been described in the brief general view of North America; but a few may be here mentioned of a more confined course, and more particularly belonging to the United Territory. That great western boundary the Mississippi, besides the celebrated Ohio, pervading the centre of the United Territory from east to west, receives many other considerable streams, among which is the Illini, or in the French mode Illinois, which waters extensive and fertile meadows. More northern streams flowing into the Mississippi are the Wisconsin, the Chipaway, and the river St. Croix. The noble stream of the Ohio receives from the north the Great and Little Miami, and the Wabash: from the south, the Great Kenaway, the Kentucky, the Green River, and above all the Cumberland and the Tennessee; while the country on the west of Georgia is watered by several streams which join the gulf of Mexico.

Among the numerous rivers which flow on the east, into the Atlantic, may be mentioned the liminary stream of St. Croix, the Penabsco, the Kennebec, the Saco, the Merimac, the Connecticut, a long and distinguished stream, which gives name to the province, but which yields

\* Pine barrens produce pines only.



in length and grandeur to the Hudson river, which, rising from several lakes in the northern parts of New York, flows into the ocean near the flourishing city of that name. The river Delaware, which washes Philadelphia, being joined by numerous streams, is more remarkable for its width than for the length of its course. The Susquehanna is distinguished by both these attributes, and after a long and circuitous progress forms the chief contributory stream to the bay of Chesapeake; which also receives the Patomak and the Fluvanna, or James River. The Patomak is not only remarkable as the seat of the new capital, but for its irruption through the Blue Ridge of the Apalachian mountains, being first joined by the Shenandoa, a considerable river from the south. Farther to the south the chief rivers flow W. into the Ohio. But the Black water and Staunton join the Roanok inlet: and Pamlico found receives a river of the same name. That of Cape Fear, the Pedee, the Santee, the Savannah, and the Altamaha of Georgia, close the list of the chief rivers of the United States.

**LAKES.]** Besides the great lakes which form the northern boundary, and which have been already mentioned in the general description of North America, there are some considerable lakes in the northern parts of the United Territory. Those on the west have been little explored. The small lakes called Cedar, Little Winnipeg, and Leech, supply the sources of the Mississippi. On the east the most important lake is that of Champlain, rather resembling a wide river, which flows into that of St. Lawrence, and supplies an easy communication with Canada. The Champlain is the boundary between the states of New York and Vermont, being in length about 75 g. miles, while the breadth seldom exceeds four or five; and it terminates in the broad river called Chambly or Richlieu, which falls within the limits of Canada. Lake George, at the southern extremity of Champlain, approaches within a few miles of the Hudson river, so that a canal might be opened at no great expence. Besides many small lakes S. W. of the Champlain, there are several other lakes in the same direction, and also in the province of New York, as the Oneida, the Cayuga, and Sennaka.

**MOUNTAINS.]** The chief mountains have been likewise described in the general view of North America. The White and Green mountains in the northern provinces, and the Land's Heights, which bounds the district of Maine, may be regarded as elongations of the Apalachian chain, to which also belong the Savage and Bald mountains, and the Allegany, so called from another name of the river Ohio, (sometimes extended to the whole Apalachian,) with many other local denominations, the Blue mountains being the most general term for the exterior ridge towards the ocean\*.

**FORESTS.]** Aboriginal forests are so numerous throughout the United Territory, that none seem to be particularly distinguished. There does not appear to exist on the whole continent of America, any of those sandy deserts which are so remarkable in Asia and Africa. There is, on the contrary an exuberance of water, even in the most torrid regions; which might be added as a proof of the theory that this continent has more recently emerged. Even the volcanoes in South America often pour down torrents of water and mud, and no where occur the sandy ruins of plains, after the fertile soil has been totally lost, or the rocky skeletons of ancient mountains. The large tract in the eastern part of

\* The component parts of the White Mountains seem to be slate, petrosilex, and grey quartz. See Morse, p. 299.

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Virginia and North Carolina, called the Dismal Swamp, occupies about 150,000 acres; but it is entirely covered with trees, juniper and cyprus on the more moist parts, and on the drier white and red oaks, and a variety of pines\*. These trees attain a prodigious size; and among them there is often thick brushwood, so as to render the swamp impervious, while other forests in North America are commonly free from underwood. Cane reeds, and tall rich grass, soon fatten cattle of the vicinity, which are taught to return to the farms of their own accord. In this swampy forest, bears, wolves, deer, and other wild animals abound. Some parts are so dry as to bear a horse, while some are overflowed, and others so miry that a man would sink up to the neck. A canal has been led through it; and even in the dry parts water of the colour of brandy gushed in at the depth of three feet. In the northern part the timber supplies an article of trade, while in the southern, rice is found to prosper; and in the neighbourhood none of these diseases are known which haunt other marshy situations†.

**SWAMPS.]** Georgia presents a singular marsh, or in the wet season a lake, called Ekanfanoko, by others Ouaquafenoga‡, in the S. E. extremity of the province. This marshy lake is about 300 miles in circumference, and contains several large and fertile isles, one of which is represented by the Creek Indians as a kind of paradise, inhabited by a peculiar race, whose women are incomparably beautiful, and are called by them Daughters of the Sun. These islanders are said to be a remnant of an ancient tribe, nearly exterminated by the Creeks.

**BOTANY.]** The botany of the United States, including the Floridas, or, in other words, of the whole region extending eastward from the Mississippi to the ocean, and southward from the river St. Lawrence with its lakes to the gulf of Mexico, may be divided into those vegetables which are common to the whole country, and those that occupy only particular parts.

The most generally diffused species among the timber trees are, the willow-leaved oak growing in the swamps; the chestnut oak, which in the southern states attains an enormous size, and is almost as valuable for its sweet farinaceous acorns as for its wood, the white oak, the red and the black. Next to these in rank are two kinds of walnut, the black, and the white or the hickory, esteemed for its oily nuts. The tulip tree and sassafras laurel, more impatient of cold than the preceding, appear as shrubs on the Canadian borders, rise into trees in the midland states, and on the warm banks of the Altamaha attain the full perfection of stateliness and beauty. The sugar maple, on the contrary, is seen only on the northern sides of the hills in the southern states, and increases both in size and frequency in the more bracing climate of the New England provinces. The sweet gum tree, the iron wood, the American elm, the black poplar, and the taccamahacca, appear in every state of the Union wherever the soil is suitable, without being much affected by variety of climate. The light sandy tracts, both wet and dry, are principally inhabited by the important and useful family of pines; of these the chief species are the Pennsylvanian fir, the common and the hemlock spruce fir; the black, the white, and the Weymouth pine; and the larch: nearly allied to which are the

\* Weld, l. 179.

† On the N. E. of the Chesapeake is another of great extent called Cedar Swamp; and some other large swamps occur in the southern states.

‡ Such long and barbarous appellatives, derived from savages who have a word of fourteen syllables to express the number *three*, are not unfrequent in North American geography.

arbor vitæ, and the red cedar of America. The smaller trees and shrubs that are dispersed in all parts of the United States, among a multitude of others, consist of the following: the fringe tree, the red maple, the sumach and poison oak, the red mulberry, the persimmon plum, and the triple-thorned acacia.

The mountainous ridges are not sufficiently high to be rich in alpine plants; their climate however is sensibly cooler than that of the plains, on which account those of the south are inhabited by the vegetables of Pennsylvania and the northern states, while the highlands of these abound in the plants of Canada.

But the glories of the American flora are principally confined to Virginia and the southern states; it is here that the unfading verdure of the wide savannas, the solemn magnificence of the primeval forests, and the wild exuberance of the steaming swamps, offer to the astonished admiration of the botanist every thing that by colour, by fragrance, and by form, can delight the senses and fix the attention.

The low ridges of calcareous soil running parallel with the rivers, and rising from the level savannas into extensive lawns and swelling hills, are generally covered with open or entangled woods, except where they have been converted into tillage by the industry of the inhabitants. In these rich tracts grow the lofty palmetto, the evergreen oak, the sweet bay, the benzoe laurel, the common laurel, the wide shading broom pine, and the red cedar. The straight silvery columns of the papaw fig, rising to the height of twenty feet, and crowned by a canopy of broad sinuated leaves, form a striking feature in this delicious scenery; while the golden fruit and fragrant blossoms of the orange, here realize the ancient traditions of the groves of the Hesperides. Superior however to all these is the towering magnificence of the great magnolia: in this rich marly soil it rises above a hundred feet, with a perfectly erect trunk, supporting a shady conical head of dark-green foliage: from the centre of the coronets of leaves that terminate the branches expands a large rose-shaped blossom of pure white, which is succeeded by a crimson cone, containing the seeds of a beautiful coral red colour; and these falling from their cells remain for several days suspended from the seed-vessel by a silky thread, six inches or more in length; so that whether in this state or in blossom it is second to none for grandeur and beauty.

The level plains by the sides of rivers, and therefore generally in a flooded state during the whole rainy season, are called savannas. The trees that grow upon them are of the aquatic kind, particularly the beaver tree, and American olive; these are generally either single or grouped together into small open groves, while the larger part of the meadow is overgrown with long succulent herbage, intermixed with shrubs and plants; the candleberry myrtle, with numerous species of azaleas, kalmias, andromedas, and rhododendrons, arranged by the hand of nature into thickets and shrubberies, entwined and over-arched by the crimson granadilla, or the fantastic clitoria, here display their inimitable beauties in full luxuriance. The sides of the pools and the shallow plashe are adorned by the bright cerulean flowers of the ixia, the golden blossoms of the yellow canna, and the rosy tufts of the hydrangia, while the edges of the groves, and the dubious boundaries of the savannas, rising imperceptibly towards the forests, are fringed by innumerable gay varieties of the philox, by the shrinking sensitive plant, the irritable dionæa, the glowing amaryllis atamafco, and the impenetrable ranks of the royal palmetto.

The swamps are at all times, even in the height of summer, for the most part under water, and are distinguished from the rest of the country by the

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the crowded stems of the cane, the light foliage of the tupelo tree, the taccamahacca, and the white cedar: this last is perhaps the most picturesque tree in all America; four or five enormous buttresses or rude pillars rise from the ground, and unite in a kind of arch at the height of about seven feet, and from this centre there springs a straight column eighty or ninety feet high, without a branch: it then spreads into a flat umbrella-shaped top, covered with finely divided leaves of the most delicate green. This platform is the secure abode of the eagle and the crane; and the oily seeds contained in its cones are the favourite repast of the paroquets that are constantly fluttering around.

Hundreds more of interesting plants yet remain, and we might go on to describe with unabated pleasure the profusion of various-coloured lupines and dwarf palmettos that relieve the dusky hue of the pine forests in which they live; the wild vines, the gourds, the bignonias, and other climbers that display to the sun their fruits and glowing blossoms above the summits of the tallest trees; we might describe the tent-like shade of the platanus, the regal splendour of the crimson flowered horse-chest-nut, and many humbler, less obtrusive, yet not less exquisite beauties: but these our limits will not admit; it is enough for the present purpose to have sketched some of the characteristic features in the botany of a country, the most accessible of all the warmer climates to the investigations of European science.

**ZOOLOGY.]** The domestic zoology of the United States nearly corresponds with that of the parent country, with some few shades of difference in size and colour. Among the larger wild animals may be mentioned the bison, large herds of which used to be seen near the Mississippi, and they were once very numerous in the western parts of Virginia and Pennsylvania. The musk bull and cow only appear in the more western regions, beyond the Mississippi. Among the animals now lost are classed the mammoth, whose enormous bones are particularly found near the salt springs upon the Ohio. The moose deer are become extremely rare, and will probably in no long time be utterly extirpated, as the wolf and boar have been in Britain. The American stag rather exceeds the European in size, and is seen in great numbers feeding in the rich savannas of the Missouri and Mississippi, where there are also herds of that kind called the Virginian deer.

Bears, wolves, and foxes are found in all the states, together with a few rapacious animals of the cat kind, improperly called panthers and tigers.

The beaver is well known from the fur, and the singular formation of his cabin, built in ponds for the sake of security. This industrious animal is found in all the states, and is somewhat imitated by the musk rat, who likewise builds his hut in shallow streams. Some kinds of monkeys are said to be found in the southern states. The morse, or sea cow, and the seal, used to frequent the northern shores; and the manati, common in South America, is said sometimes to appear on the southern coasts.

Among the birds there are many kinds of eagles, vultures, owls; and numerous sorts called by European names, though generally of distinct species. The turkey is peculiar to America and abounds in the north\*. They were brought from Mexico to Spain, and from Spain to England about 1524; the African poultry, or *melagrides*, of more ancient authors, being Guinea fowls. Virginia abounds with beautiful birds, and it may be conceived that vast varieties of aquatic birds crowd the nu-

\* Pausan., A. Z. l. 349.

merous lakes and rivers, the largest being the wild swan, which sometimes weighs thirty-six pounds. Some of the frogs are of remarkable size; and the tortoise or turtle, supplies a delicious food, while the alligator is frequent in the southern rivers. Of serpents Mr. Morse enumerates near forty kinds found in the United Territories. Virginia, in particular, producing great numbers. The rattlesnake is the largest, being from four to six feet in length, and is one of the most dreaded. Among the fish are most of those which are esteemed in Europe; and of those that are peculiar may be mentioned a large kind of white trout found in the lakes.

**MINERALOGY.]** The mineralogy of the United States will not supply an extensive theme, as few substances are found, except those which are indeed the most precious to industry, iron, and coal. Iron ore is found in great abundance in Massachusetts, where there are considerable manufactures. Copper ore also appears in that province. In Rhode island there are mines of iron and copper\*. On the banks of the Connecticut is a lead mine, but too expensive to work; and zinc is also found with tale, and crystals of various colours. At Philipsburg in New York is a silver mine; and lead, zinc, and manganese, with copper and coal. The middle provinces seem only to produce iron ore; but Virginia is celebrated for various minerals. A lump of gold ore was found near the falls of the river Rappahanoc, probably rolled down from its source, or that of some tributary rivulet. There are lead mines which yield from fifty to eighty pounds from one hundred of ore: copper and black lead are also found; and there is abundance of excellent coal on both sides of James River, said to have been discovered by a boy in pursuit of cray fish. Coal also abounds towards the Mississippi and Ohio; and at Pittsburg is of superior quality: but this valuable mineral is chiefly worked in Virginia, where the beds seem very extensive. Limestone is rare on the east of the Blue ridge; but there is a vein of marble which crosses James river. Amethysts, or violet coloured crystals, are also found in Virginia. North Carolina is crossed by a long ridge of limestone, in a south-westerly direction, but no minerals seem to have been discovered. In the territory south of the Ohio, what is called stone-coal is found in the Cumberland mountains, or great laurel ridge, and there are salt springs near the upper branches of the Tennessee. In South Carolina there are said to be appearances of silver and lead, with abundance of iron ore, and quarries of free stone. Georgia, the most southern state, is of a rich soil; but besides a bank of oyster shells, ninety miles from the sea, there seems no mineralogic discovery.

**MEDICAL WATERS.]** There are several medical waters of various virtues, in different provinces of the United States. In the province of Vermont, or the Green Mountain, there is a remarkable sulphureous spring, which dries up in two or three years, and bursts out in another place. Those of Saratoga in the province of New York, are remarkably copious, and surrounded with singular petrifications. They are considerably frequented, as well as those of New Lebanon in the same country. Two warm springs occur in Virginia, one of them in 112°. These are called the springs of Augusta: others more frequented are near the river Patomak. The salt springs in Kentucky also deserve mention; and there are others in the province of Tennessee.

**NATURAL CURIOSITIES.]** The natural curiosities of the United States

\* Native copper is found on the river Tonnagan, which runs into Lake Superior. Mackenzie, xii.

are numerous, and which has been producing appearances. Blue Mountains, a common feature of American Geographical features, in which, a room about 20 feet in length, at the farther end, at water. Near Durham as to move with one England it would be In the province of yards in diameter, for a cavitic cave in which In the territory on the extend for thirty or forty deer, wild cattle, and this district is chiefly in form, with an adjoining division that they passed of their first residence a tal bridge is a sublimous soil and trees, across a of ages by a brook, which beneath. The breadth of the mafs about ISLANDS.] The chief Island, (the province of three small islands attached to the shores of North Carolina the various bays and lakes

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Boundaries. — Original

**BOUNDARIES.]** IN the possession of the United States, to consider the boundaries of the eastern boundary of Vera Cruz, according to the Sierras de Canatagua. The assent to a boundary, by

are numerous, and have been investigated with that laudable attention, which has been particularly directed by the English towards such interesting appearances. Besides the irruption of the river Patomak through the Blue Mountains, and other objects already mentioned, the principal uncommon features of nature shall be briefly indicated from Mr. Morse's American Geography. In the province of Vermont is a curious stalactitic cave, in which, after a descent of 104 feet, there opens a spacious room about 20 feet in breadth, and 100 in length, with a circular hall at the farther end, at the bottom of which boils up a deep spring of clear water. Near Durham in New Hampshire is a rock so poised on another, as to move with one finger; a natural remain of a ruined hill, though in England it would be called Druidical.

In the province of New York a rivulet runs under a hill about seventy yards in diameter, forming a beautiful arch in the rock; and there is a stalactitic cave in which was found the petrified skeleton of a large snake. In the territory on the N.W. of the Ohio, the savannas, or rich plains, extend for thirty or forty miles without any tree; they are crowded with deer, wild cattle, and turkeys, and often visited by bears and wolves; but this district is chiefly remarkable for a number of old forts, of an oblong form, with an adjoining tumulus or tomb. As the Mexicans have a tradition that they passed from the north, these forts may perhaps be remains of their first residence, or of some nation which they subdued. The natural bridge is a sublime and striking curiosity, being a rock covered with soil and trees, across a chasm, appearing to have been opened in the course of ages by a brook, which now runs between two and three hundred feet beneath. The breadth of this bridge is about sixty feet; and the thickness of the mass about forty.

**ISLANDS.]** The chief islands belonging to the United States are Long Island, (the province called Rhode Island being continental, with two or three small islands attached,) and a few insular stripes of land near the shores of North Carolina. The others, scattered along the coast, and in the various bays and lakes, are of little consequence.

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## THE SPANISH DOMINIONS

### IN NORTH AMERICA.

#### CHAPTER I.

##### HISTORICAL GEOGRAPHY.

*Boundaries. — Original Population. — Historical Epochs. — Antiquities.*

**BOUNDARIES.]** IN estimating the extent of these large and flourishing possessions, it will be necessary, in the first place, to consider the boundaries. That towards the south-east is decidedly the eastern boundary of Veragua, the last province of North America; consisting, according to Lopez, of a ridge as already mentioned, called Sierras de Canatagua. Towards the north the Spaniards do not readily assent to a boundary, but in fact claim the whole N.W. of America, pretending



pretending a prior right of discovery to the English, or any other nation, and appoint a governor of New California, by which name they imply all the N.W. coast of America. Within land the boundaries of Louisiana, formerly possessed by Spain, ascended, even by the English maps, to the Turtle Lake, one of the sources of the Mississippi; but since that province has been acquired by the United States, the limits of the Spanish possessions must be sought on the western coast, where the English especially claim the port of Sir Francis Drake, and mark the Spanish boundary at Fort St. Francisco, to the north of the town of Monterey. But Cape Mendocino was the boundary fixed by the last treaty. Upon the whole, the sources of the Rio del Norte may be assumed as a medial boundary, as there are several small Spanish settlements to the N. of Santa Fé, that is about lat.  $39^{\circ} 30'$ , while the southern boundary is about lat.  $7^{\circ} 30'$ : hence a length of 32 degrees, or 1920 g. miles. But the breadth little corresponds to this prodigious length of territory; though in one place, from the Atlantic shore of East Florida to those of California on the Pacific, it amounts to about three-quarters of that length; but the narrowest part of the isthmus in Veragua is not above 25 B. miles: in general the medial breadth can scarcely be computed at more than 400 g. miles.

The Spanish dominions in North America are, as Antillon observes, immense in their extent; while scarcely even a village appears from the tropic towards the north, or in what he calls the interior provinces. There are only a few garrisons, most of them in ruins; nor is there any hope that these provinces can contribute to the prosperity of the parent country. On all sides, says he, there are mountains and barrenness, without any product, except the mines, which however so much abound in Sonora, New Mexico, New Biscay, and New Leon, that they rival those of the southern provinces. He proceeds to observe, that the names of pretended kingdoms of Leon, Santander, &c. produce false ideas with respect to countries, which in fact are mere deserts, without a foot of real and secure territory; while the pretended possession costs the royal treasury not less than 1,200,000 *pesos* or dollars annually.

**DIVISIONS.]** The admission of chorography into universal geography must be reprobated, as heterogeneous and foreign to the nature and grandeur of a description of the whole world. Hence a chorographical description of a country, or that which presents an account of each province, or even state, however excellent in a detached work, has never been admitted into the present plan. But the divisions and boundaries of the Spanish provinces in North America have been so little illustrated, that modern writers, even of great celebrity, have fallen into several mistakes; and as it is the peculiar duty of a geographical work to obviate such misapprehensions, some details on this subject become unavoidable.

The extensive and opulent empire in North America, belonging to Spain, may be considered under the following grand divisions.

#### VICE-ROYALTY OF NEW SPAIN.

This important portion presents the following provinces, now called **INTENDANCIES**, proceeding from the south towards the north. Part of the southern provinces of Vera Cruz (which embraces Tabasco), and of Merida or Yucatan, border to the south upon the government of

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1. *Merida*, or 2  
2. *Vera Cruz*, a  
gulf of Mexico,  
nuco, which rises  
being about 210  
25 to 28.

3. *Oaxaca*.

4. *Puebla de los*

5. *Mexico*.

6. *Valadolid*, or

7. *Guadalaxara*.

8. *Guanaxuato*.

9. *Zacatecas*.

10. *San Luis Potosi*

11. *Durango*, inc

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14. *New Mexico*, v  
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15. The *Californias*

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\* The province of Tamaulipas  
among the provinces of New  
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† So Humboldt, p. 153,  
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with Texas and Cohahuila.  
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Durango, Sonora, Cohahuila  
eral of the Internal Provinces



Guatemala, which chiefly contains the districts on the Pacific, or more properly Grand Ocean.

1. *Merida*, or *Yucatan*.  
 2. *Vera Cruz*, a maritime province of vast extent, reaching along the gulf of Mexico, from the river Baraderas to the great river of Panuco, which rises in the metallic mountains of San Luis Potosi, being about 210 leagues in length, while the breadth is only from 25 to 28.

3. *Oaxaca*.

4. *Puebla de los Angeles*.

5. *Mexico*.

6. *Valadolid*, or *Mechoacan*.

7. *Guadalajara*.

8. *Guanaxuato*.

9. *Zacatecas*.

10. *San Luis Potosi*, which includes New Leon and Santander.

11. *Durango*, including *New Biscay*, and the district called *Bolson de Mapimi*. The large province of Taramara is totally omitted in Humboldt's description, though it is described at considerable length by Alcedo, who gives the names of forty-eight millions in that region; and adds that the capital is S. Felipe-de-Chiguagua. This last is the Chihuahua of Humboldt and Pike, who seem to arrange it as the capital of New Biscay. The former says that the intendency of Durango is more known under the name of New Biscay; and gives no hint what can have occasioned the error of Alcedo concerning the name and province of Taramara. On the other hand, Alcedo is an author so grossly inaccurate that his authority is of little use in American geography\*.

12. *Sonora*, which contains the province so called, and that of *Cingloa*, or *Sinaloa*.

13. The extreme provinces towards the N.E. *Cobahuila* and *Texas* are subject to the intendant of San Luis Potosi. This portion might be styled the intendency of San Luis of the *North*, and the other part of the *South*.

14. *New Mexico*, which is said to be a mean district, without mines or other advantages.

15. *The Californias*.

The provinces immediately subject to the viceroy of New Spain are, Mexico, Puebla, Vera Cruz, Oaxaca, Merida, or Yucatan, Valadolid, Guadalajara, Zacatecas, Guanaxuato, San Luis Potosi (except New Santander, Texas, Cohahuila, and the kingdom of Leon), Old and New California.

What are called the INTERNAL PROVINCES, are New Leon, Santander, New Biscay, or Durango, Sonora, Cohahuila, Texas, and New Mexico. The two first are subject to the viceroy; the others to the governor of Chihuahua†.

\* The province of Taramara is also repeatedly mentioned by Esalla, xvii. 120, 121, among the provinces of New Biscay, which he represents as being of the same limits with the bishopric of Durango. See also Alcedo, art. *Taramara* and *Piscaya Nueva*. The Taramara Tongue is also mentioned by Humboldt, and the name appears in his map.

† So Humboldt, p. 155, where in one passage, he includes New Leon and Santander among the provinces immediately subject to the viceroy, and in another excepts them, along with Texas and Cohahuila. In another passage, p. 29, he says, the new kingdom of Leon and Santander are governed by the viceroy of Mexico; while the desert regions of Durango, Sonora, Cohahuila, Texas, and New Mexico, belong to the commandant general of the Internal Provinces.

Before the division into Intendancies, in 1776, the divisions of New Spain were,

1. The kingdom of Mexico.
2. The kingdom of New Galicia.
3. The new kingdom of Leon.
4. The colony of New Santander.
5. The province of Texas.
6. The province of Cohahuila.
7. The province of New Biscay.
8. The province of Sonora.
9. The province of New Mexico.
10. The Californias.

These ancient divisions are still much used in the country. The governor of Chihuahua is styled captain-general, an arrangement which commenced in 1779. He is also called *Commandante-General* of the Internal Provinces. The Americans contend that Louisiana, now ceded to them, extends to the Rio del Norte, while the Spaniards assume, under the province of Texas, all the regions as far as the river Mexicano, or Mermentas to the E. of the river Sabina. The extreme Spanish settlements on the N.W. are the Mission of San Francis, to the S. of Cape Mendocino, and the hamlet of Taos in New Mexico.

Humboldt estimates the extent of New Spain in square leagues of 25 to the degree, at 118,478, and the population in 1803 at 5,837,100\*, being 49 to the square league; but most unequally distributed, some portions presenting 301, as that of Puebla, while others only contain one, as that of Old California.

But a considerable part of the Spanish empire in North America has not been visited nor described by Humboldt, the COMMANDANCY of GUATIMALA, which contains the following districts, proceeding from the north towards the south.

1. *Chiapa*.
2. *Vera Paz*. These two provinces border on the north with those of Vera Cruz and Yucatan, belonging to the viceroyalty.
3. *Guatemala* Proper, which is subdivided into the districts of *Soconusco*, *Suchitepec*, *Sanfonate*, *San Salvador*, *St. Miguel*, *Tiguesgalpa*, and *Xern* or *Choluteca*.
4. *Honduras*.
5. *Nicaragua*.
6. *Costa Rica*.

The province of *Venagua*, though geographically within the bounds of North America, as admitted by all the Spanish authors, yet politically forms a part of the government of *Tierra Firme*, in South America, under the viceroy of New Granada. It is very mountainous, and unhealthy on account of the perpetual rains. It was discovered by Colon on his fourth voyage, 1503, and granted to him and his heirs by the Spanish monarch. There are rich mines; and the capital is a small town of the same name, but often called *St. Yago*, as being under the protection of that saint †.

Of the two most southern provinces of the government of Guatemala, *Costa Rica*, though mountainous, produces excellent cacao or chocolate. The name was derived from the rich mines; one at *Tifingal* having

\* Say 4,837,100, there being an error in the sum total!

† *Alejo* in voce.

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\* *Estad.*, xxvii. 179  
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been reputed another Potofi\*. Nicaragua is one of the most woody provinces of New Spain, but the plains are very fertile; and the natives are accounted singularly ingenious, especially as musicians and goldsmiths.

Guatemala is chiefly celebrated for the production of excellent indigo and chocolate, the latter particularly belonging to the district of Socomusco.

The governor of Guatemala is styled CAPTAIN GENERAL, and can scarcely be considered as dependent on the viceroy of New Spain. It is one of the most fertile and populous divisions of the Spanish settlements, and from its volcanic nature producing few mines, the industry of the inhabitants is directed to more useful purposes.

The Intendants are generally military officers of a certain rank; and since the revolt of our colonies it appears that military governors and laws are prevalent in those of Spain.

Another division is that of AUDIENCES, or supreme courts of justice, of which there are three; that of Guatemala; that of Mexico; and that of Guadalaxara. This last extends over the whole northern provinces; and it is remarkable, that the bishopric of Durango, in the most southern part of New Biscay, likewise extends over all these provinces: proofs that their settlement is very imperfect, and chiefly maintained by missions or religious stations, one bishopric and one tribunal here extending over a vast empire.

ORIGINAL POPULATION.] The original population of these extensive regions was various, consisting of Mexicans, and other tribes; considerably civilized in the centre, while to the north and south were savage races. The origin of the Mexicans remains in great obscurity, after the fruitless researches of many ingenious and learned men. Their language appears to be totally different from that of the Peruvians; but the Mexican vocabularies are very imperfect. There seems not however to be any resemblance between either of these languages, and that of the Malays, who peopled the numerous islands in the Pacific Ocean; nor are the Tatarian, or Mandshur features to be traced in any account of the Mexicans or Peruvians, though singularly distinct from those of other races. The animals of America are mostly distinct from those of the old continent; and could in no case have descended from them. If it cannot be allowed that the great Creator, in like manner, ordained a distinct race of men for this continent, it will be necessary, before this curious question be determined, to collect vocabularies of the African languages, as there are on that continent several nations of a copper colour, resembling the Americans; and the Mexicans and Peruvians might become more civilized, from mere advantages of situation and accident. It is however deeply to be regretted that these American empires, or kingdoms, were destroyed; as, not to mention the cause of humanity, they would have afforded curious objects for philosophic observers of human nature. The general opinion seems to be, that the Mexicans and Peruvians were a distinct race from the other Americans; and amidst a variety of conjectures it might be enquired if they did not proceed from Japan, or be haply of the same race with the people of the large island of Tchoka, or Sagalian, whose features, as described and delineated by La Perouse, and the literary men who accompanied him, bear so resem-

\* *Edalla*, xxvii. 178. This author gives a tolerable account of Guatemala, but it is unfortunately chiefly copied from *Acosta*. Some parts of the work are illustrated in *Dampier's* voyages.

blance to the Tataric. In this case we may conceive that they are remains of a people in eastern Asia, who were expelled by the Mandshurs, on their progress from more western settlements.

**HISTORICAL EPOCHS.]** The historical epochs of Mexico have been of little moment since it was conquered by the Spaniards in 1521, when the last monarch Guatimozin perished, Motezuma having died in the preceding year. According to the Mexican traditions their ancestors consisted of several savage tribes, who about the tenth or eleventh century of the Christian era moved in successive migrations from unknown regions towards the north and north-west, and settled in Anahuac. About the beginning of the thirteenth century a tribe, more polished than the rest, advanced from the borders of the Californian gulf, and took possession of the plains adjacent to the great lake near the centre of the country\*. They were for a time governed by chiefs or judges, till the territories becoming more extensive, the supreme authority centered at last in a single person. Even from the most extensive accounts the monarchical government had not lasted above 197 years; that is, it commenced about A.D. 1324, the first monarch being Acamapitzin†. Wars and rebellions, famines and inundations, constitute the chief features of Mexican history; and the Spanish government presents few events of moment, the natives being confined between the two seas, and more easily checked than in South America, where there is a wide extent of territory for retreat and conspiracy.

As the names and succession of the Mexican monarchs may interest many readers, and late Spanish writers seem to have treated this subject with considerable accuracy, and to have removed several received errors, they shall be subjoined from the most recent accounts‡.

1. *Acamapitzli* was elected when the Mexicans established themselves in the lake. He reigned 21 years with despotic authority, though he was tributary to a neighbouring sovereign.

2. *Huitzicuhuitl*, son of the former; yet not succeeding by hereditary right, he was elected by the chief men of the kingdom: reigned 22 years.

3. *Chimalpopoca*, brother of the former.

4. *Izcobuath*, son of the first king by a slave, ruled with supreme prudence, and was the most fortunate of the Mexican monarchs, subduing many neighbouring provinces. He erected two famous temples; one to the idol called the Woman Snake, and the other, which was highly celebrated, to *Huitzilopochtli*, the chief of the Mexican divinities.

5. *Moctecuhzuma*, or *Motezuma* I. §, was general of the army, when he was chosen monarch on account of his merits and valour. He conquered several neighbouring provinces, or rather villages and districts. In the ninth year of his reign the capital was inundated by the lake, and this event was followed by a severe famine. He reigned 29 years.

6. *Ayayacatl* was also general when he was elected, though the early Spanish writers have supposed that he was the son of his predecessor.

7. *Tizoc* was brother of the former, but was general when chosen

\* Robertson's America, v. iii. p. 136.

† For some account of these monarchs, and those of the neighbouring tribes, the reader may consult Clavigero.

‡ Viagero, xxvi. 287.

§ This name has been corrupted, even by celebrated English writers, to Montezuma, as if it were Spanish or Italian, while other nations observe the orthography. The name Motezuma is still preserved in the siles of several Spanish families, particularly the Counts of Motezuma and Tula.

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8. *Abuizotl* the army. A to have sacrificing a rivulet been predicted kings, and ex his reign was which the ch 18 years.

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\* Robertson's  
† New Mexico  
city of that name

sovereign; the one office being regarded as a step to the other. The petty wars of these princes are void of all interest; and the Mexican monarchy was far from boasting the extent of the Peruvian. He was poisoned in the fourth year of his reign.

8. *Ahuizotl*, brother of the former, and also commander in chief of the army. At the dedication of a temple he is said, most magnificently, to have sacrificed 72,000 prisoners. He obstinately persisted in conducting a rivulet to Mexico, though it occasioned an inundation, as had been predicted. Yet he was regarded as the greatest of the Mexican kings, and extended the monarchy to the confines of Guatemala. During his reign was discovered the quarry of the stone called *tezontli*, with which the chief edifices in the city were constructed. He reigned 18 years.

9. *Moteczuhzuma*, or *Moteczuma II.*, the ninth in the series of kings, and not the eleventh as Solis pretends, was the son of the sixth monarch, and nephew of the two last. He was elected on account of his great reputation, though high priest in one of the temples. With the exception of the war against the republic of Tlascala, in which he was unsuccessful, he subdued several provinces, and is said to have extended the kingdom to the bounds of Nicaragua. He was in the eighteenth year of his reign when he was attacked by the Spaniards. According to their writers his education as a priest of sanguinary idols, led him to the utmost cruelty, luxury, and pride. He changed the constitution of the state, depriving the plebeians of all employments, and ordaining death against any of them who should dare to look him in the face. Even the nobles were reduced to slavery, though loaded with idle titles. Ambassadors were ordered to approach in mean dresses, and to speak in a low voice, while his only answer was *Ha*; "it is well." Such was his luxury, that he every day changed his cloaths and utensils, while the women in his harem exceeded 2500, and his noble attendants 3000; but they were exempted from taxes, while the people paid, some of them, one-third of their property. The letters of Cortez the conqueror of Mexico, present singular details, and proclaim the luxury of Moteczuma.

10. *Cuillahuatzin*, or *Guatimosin*, as he is more commonly called, was brother of Moteczuma, and was elected during the war with the Spaniards. He was taken prisoner, and strangled by order of Cortez, because he had planned a revolt, after having sworn homage to the Emperor Charles V. then king of Spain.

The extensive peninsula of California was discovered by Cortez in 1536, but was so completely neglected, that in most charts it was represented as an island\*. The Jesuits afterwards explored this province, and acquired a dominion there as complete as in Paraguay. On their expulsion in 1766 it was thought to be a not unfertile region, with some mines of gold and a valuable pearl fishery. The countries of Chimala and Sonora, on the east side of the Vermillion sea or gulf of California, as well as the immense provinces of New Biscay, and others on the north-east never were subject to the Mexican sceptre, but now acknowledge the power of Spain, though the settlers are few†. In 1765 a war broke out with the savages, which ended in their submission 1771. During

\* Robertson's America, III. 229.

† New Mexico was dislosed in 1553 by Antonio d'Espo. Gage, p. 55, mentions a city of that name as lately built.



their marches the Spaniards discovered at Cineguilla \*, in the province of Sonora, a plain of 14 leagues in extent, in which vast quantities of gold were found in large lumps, at the depth of only 16 inches. Before the end of the year 1771 above 2000 persons were settled at Cineguilla; and other mines not inferior in wealth have been discovered in other parts of Sonora and Cinaloa. It is probable that these discoveries have investigated other settlements in the northern parts of New Spain and in New Mexico. These colonizations, and the settlement of Santa Fé, and others in that vicinity, are important events in the history of the Spanish territories. It is however to be lamented that the progress of these settlements has not been explained with more care and accuracy, for no small obscurity attends their chronology.

The history of the Floridas is sufficiently known. After having been contested between the French and Spaniards, they were yielded to the English by the peace of 1763; but being regained by the Spaniards during the American war, they were finally assigned to that nation by the treaty of 1783.

ANTIQUITIES.] The ancient monuments of the Mexicans, seem chiefly to consist of a few symbolical paintings, the colours of which are remarkably bright, but the designs rude. Some of their utensils and ornaments have also been preserved, but are coarse and uncouth. Their edifices appear to have been little superior, being meanly built with turf and stone, and thatched with reeds. The great temple of Mexico was a square mound of earth, only 90 feet wide, partly faced with stone; with a quadrangle of 30 feet at the top, on which was a shrine of the deity, probably of wood. In spite of the enthusiastic suggestions of Clavigero, such a temple would make a mean figure, if placed by the side of the Peguan Shumadoo, erected at a barbarous and early epoch of the Peguese, who are not even now esteemed to be highly civilized. The most remarkable monument still remaining is thought to be the aqueduct of Chempoallan—but the architect was a Franciscan missionary †! Our fanciful author proceeds to prove, from tribute-rolls that the Mexicans used lime; but the best proof would have been a few solid walls. As the first Spanish conquerors, in the true spirit of Mendez de Pinto, described every trifling object in the wildest colours of hyperbole, so the warm imagination of Clavigero creates wonders for its own admiration, while in truth the Mexicans appear to have little exceeded the inhabitants of Easter Island in any of the arts ‡.

The uncertainty of the Mexican antiquities have been treated in so lively a manner by Estalla, that the reader will not be displeased to see some of his observations §.

“While I was searching in modern Mexico for monuments of the grandeur of the ancient, so much vaunted by our historians, and not finding one trace of what they have painted, I communicated my doubts to Don Luis de Trespalacios, adjutant major of the provincial regiment of that capital, who knowing the purity of my intentions, with the greatest generosity offered to serve me as guide; and to his friendship I owe all

\* Lat. 30° 20' by Humboldt's map.

† Clavigero, i. 420.

‡ Caceri, vi. 204, briefly describes the *coas*, or pyramids, near Teotihuacan, called those of the sun and moon: but his account is brief and unsatisfactory, and drawings are wanted. In the square of Otumba is a pyramid, or rather obelisk, of one stone; but the height is not mentioned, nor the antiquity. Estalla, xvii. 37.

§ Viagero, xvi. 408.

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that I shall tell you concerning Mexico \*. He laughed at my exaggerations and answered in a jeering manner, time must be very voracious in America, since not being able, in a long series of ages, to destroy the monuments of the Egyptians, Greeks, and Romans, here in a very few years he has devoured monuments and edifices, which rivalled or exceeded those of the ancient world. But let us leave exaggerations, and speak seriously. There are in Mexico no remains of what our historians have painted: with the pardon of these respectable men I do not believe one half of what they boast. Those great palaces, gardens, and temples; those immense and populous cities subject to Mexico, and whose kings were tributary to Motezuma; that high and vast wall which divided the Mexican empire from the republic of Tlascala; and the other wonders related by historians, should have left at least some few ruins in testimony of their existence, even granting that the Spaniards entertained the extravagant wish of destroying all, in order that they might be obliged to construct, with great labour and expence, other edifices far inferior.

"Must we not think in the same manner of the relations concerning the manner and delicacy with which the Mexicans worked gold and other metals? What is become of all those precious toys? They were embarked on board a ship, it is said, and were lost. A wonderful empire which lost in a small vessel all its precious manufactures of gold! It is certain that not a particle remains of these wonders. Let us suppose in the Spaniards an unnecessary brutality; let us grant to the fanatic Las Casas that the conquerors, in three or four years, devoured 50,000,000 of Indians; shall we also imagine that they destroyed the cities and magnificent edifices, which their own interest and convenience must have led them to preserve? Shall we suppose they did it with a design of not leaving to the Indians any monuments which might remind them of their former power? Absurd supposition! The Indians had no occasion for any monument of art to remind them that they had emperors, that they were conquered by the Spaniards, who thus became their lawfords, against whom they neither can or ought to revolt; and if there was any necessity not to revive the memory of those transactions, it would be absurd, on an annual solemnity, to display in triumph the standard of Cortez, in commemoration of this famous conquest.

"I am far from believing the absurd calculations of Las Casas and those who imitate his extravagance. It appears to me the most violent of human affairs, that in all the empire of Mexico, the population did not surpass 3 or 4,000,000, even including the people of Tlascala, and other towns not subject to Motezuma. But are we then to suppose that a Cortez, a Diaz, and other eye-witnesses of credit, repeated falsehoods with regard to the grandeur of Mexico? Not positively; I would reserve the term of falsehoods for those relations of historians or travellers, who only study to divert the reader with marvellous accounts of non-existence, or idle exaggerations. I believe a Cortez, a Diaz, and other witnesses of the conquest to have been men of a very different character, who were naturally surprized at the grandeur of Mexico, from a comparison with what they had hitherto found in the isles, and on the continent of America; and who, never conversant in works of art, and then a long time estranged from them, were surprized at the rude exertions of this description. For a long time they had seen nothing, except the hovels of savages, the rudest furniture, and naked tribes, without any policy or regular form of government. In New Spain were found numerous

\* It must be remembered that the work is in the form of letters to a lady.

villages of neater and more regular houses, and the city of Mexico appearing very populous, a powerful chief, some policy, some buildings of great extent, and various objects of art, which they fondly compared with the best productions of Europe\*. All these objects they encountered in a country whose inhabitants they had previously held in the meanest estimation; and dazzled with such unexpected wealth in gold, silver, and precious stones, their inflamed imagination led them to extravagant descriptions. Thus in modern times, the enchanted islands of Juan Fernandez, of Tinian, of Otaheiti, painted by voyagers as so many paradises of delight, what are they? Cool judgment would say,—little isles, more or less agreeable. But shall we say that these respectable voyagers have told falsehoods? No. They arrived fatigued with the uniform and melancholy spectacle, which a tempestuous sea had presented during many months of navigation, wearied beyond expression, sick, deprived almost of the necessaries of life; the most rocky and desert island would in their eyes, have assumed the charms of paradise. But happily finding an island covered with verdant trees, with fruits, with salutary plants, diversified with crystalline rivulets, possessed by humane and beneficent inhabitants, eager to relieve their numerous warts, shall it be thought strange that no expressions could equal their feelings, in describing these countries; though there were in fact nothing which they themselves would not have despised in other circumstances. From these examples may be seen the real cause of the exaggerations of our historians and conquerors; and if to this be added the self-interest which they had to magnify the grandeur of their conquests, there is little room to be surprised at their relations.

"Equally absurd and fabulous is the numerous population ascribed to ancient America by Las Casas, who, by his insane ambition and fanaticism has impressed an indelible stain upon the Spanish name, calumniating the conquerors with the blackest and most horrible imputures. This hypocrite, who pretended so much love of humanity, was the very man who began the slave trade; by whose fatal counsels the unhappy negroes were torn from their country to perish in America. Atrocious advice! accursed adviser! whose name ought to be execrated by all real lovers of humanity, as having caused the destruction of 5,000,000 of negroes. How could he pretend love to the Indians, who was so cruel to the negroes? A wild ambition, a ferocious spleen, on feeling the complete disappointment of his inordinate expectations, were the causes that inflamed his anger against the Spaniards, and stimulated him to so many calumnies and imputures. Whoever examines with impartiality the historians, on the contrary will clearly perceive, that New Spain is much more populous at present than in the time of Motezuma, though Mexico, and the other large towns, might even then have appeared magnificent, when compared with what had previously been discovered. It may even be affirmed, on the most secure foundations, that there are at present more Indians in the kingdom of Mexico, than existed at the time of the conquest; for the censuses, or registers of the Indians, which are renewed every five years, serve to demonstrate that there is always an increase, and never a diminution: if by chance there be fewer families of Indians, it is because they are mingled and confounded with the Spaniards, for many daughters of Cacics have married Europeans; and among the ancestors of the present Spaniards were many of that description: and it is

\* Or rather of Spain, where the arts were not very brilliant at that period.

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certain that though women passed from Spain to marry the conquerors, yet finding them lame and wounded, they despised such husbands, and refused the proposed alliances; whence the men enraged at their squeamishness, repaid them with equal contempt, and wedded the most considerable among the Indian females. It is true that no Indians remain in the Spanish West India Islands; but the people there called *Jibaros*, what are they but Indians mingled with the Spanish race? They have no connection, in colour nor form, with the negroes nor the mulattoes. When I say that there is a considerable augmentation apparent from the registers of the Indians, I do not mean that the account shall be taken for any particular year, in which there may have been a contagious disorder, or even for any particular space of five years; not forgetting, however, that these registers always fall short of the truth, there being many causes why the Indians should wish to escape mention in these records; but that a judgment be formed from a fair and progressive examination."

The chief remaining antiquities of the Mexicans appear to be earthen ware, in which the Indians of Guadalaxara and Mechoacan excel to this day, as the Tarascas of the Peribanes in that of jappanning, the black colour lasting as long as the wood itself, while the figures equal those of the Chinese artists, and the gilding in gold and silver is of great lustre and permanency\*.

The other Mexican antiquities, according to Humboldt, are the ruins of dykes and aqueducts; the stone of sacrifices, with a relieve representing the triumph of a Mexican king; a colossal statue of a god-dess; the hieroglyphical pictures on paper made of a kind of *cactus*, or deer skins, and cotton cloth; the foundations of a palace at Tezcucó: and a colossal relieve on a porphyritic rock. The ancient weapons and knives of sacrifice are of obsidian, *itztli*, of which a kind of quarries was wrought in the porphyritic mountains of Oyamel and Yacal, whence the Spaniards call that part the mountain of knives.

The ruins at Mitla, in the intendency of Oaxaca, are singular, as they present six columns of what Humboldt calls hornblende porphyry, probably the basalt of the ancients. They have neither bases nor capitals.

Near the river Gila are the ruins called Casa Grande, supposed to have been an early residence of the Mexicans. Fragments of earthen ware are found mixed with pieces of wrought obsidian, so that there must have been some volcanic country on their progress†.

\* Viagero, xxxi. 283. Humboldt shewed at Paris a bust which he had acquired in Mexico, of which the head dress rudely resembled the ancient Egyptian. He had also a pamphlet, lately printed at Mexico, on some antiquities recently discovered. Yet I have seen nothing to indicate that the people of Mexico excelled in ingenuity those of the South Sea, except in some advantages of situation, particularly in the abundance of gold and silver.

† Humb. 186. 261. 298.

## CHAPTER II.

## POLITICAL GEOGRAPHY.

*Religion. — Government. — Population. — Army. — Navy. — Revenue. — Political Importance.*

RELIGION.] THE religion of the Spanish settlers in these provinces is well known to be the Roman Catholic, and of such a sort as greatly to impede industry or prosperity, for it is computed that one-fifth part of the Spaniards consist of ecclesiastics, monks, and nuns; and that country must be miserably defective in which the Jesuits were of distinguished industry. The establishment of the inquisition, and the strange fanaticism of the Spaniards, who disgrace the European name, have not only crushed all spirit of exertion, but have prevented the admixture of other Europeans, whose industry might improve their settlements, and whose courage might defend them.

The religion of the ancient Mexicans appears to have been chiefly founded on fear, the temples being decorated with the figures of destructive animals: and fasts, penances, voluntary wounds, and tortures, formed the essence of their rites. Human sacrifices were deemed the most acceptable; and every captive taken in war was cruelly tortured and sacrificed. The heart and head were the portion of the gods, while the body was resigned to the captor, who, with his friends, feasted upon it. The extinction of such a ferocious people may not be worthy of much regret: but modern philosophy is apt to decide on a slight and imperfect view.

Thus, instead of a benevolent deity, the worship of the Mexicans may be said to have been directed to the evil principle of some oriental nations, whom all their efforts were stretched to appease. In the Mexican language *Teotl* was a general term for any divinity; and in obscure theory they believed in a creator whom they styled *Ipalnemoani*, that is, "he by whom we live:" but their supreme deity was rather that evil spirit called *Klacatecolotl*, or the *rational owl*, whose delight was to injure and terrify. They believed in the immortality of the soul, and a kind of transmigration; the good being transformed into birds, and the bad into ereeping animals. The principal deities were 13 in number, among whom were the sun and moon; and Tlaloc, the god of water, was the master of paradise; but Mexitli, the god of war, received the chief adoration. There were other gods of the mountains, of commerce, &c. and the idols, rudely formed of clay, wood, or stone, sometimes decorated with gems and gold, were numerous. One was composed of certain seeds, pacted together with human blood. The priests wore a black cotton mantle, like a veil; and there seem to have been orders of monks, as among the eastern nations of Asia. The austerities and voluntary wounds of the priests, their poisonous ointments, and other abominable rites, even as related by Clavigero\*, evince that the entire system was the most execrable that has ever appeared on the face of the earth, alike blasphemous to God, and pernicious to man. The whole is so totally unlike any system ever practised in any part of Asia, that there is additional cause to believe that the people were either indigeneal, or

\* See i. 123, a father invited to the sacrifice of his daughter: and † 232, the human victims sacrificed at the consecration of two temples were 12,210 l.

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have proceeded from Africa, in which alone (as among the *Giagaa*) such cruelties may be traced. The Asiatic religions seem universally mild, and even gay, as natural in the worship of a being who is benevolence itself; while in Africa the preponderance of the evil spirit seems to have been acknowledged by many nations. Certainly the Spaniards never sacrificed more victims than the Mexicans themselves devoted; and the clamours of pretended philosophy will often be found in opposition to the real cause of humanity, which it aspires to defend. Could a change of manners have been effected without the use of the sword, it would have been highly desirable; but the design might have been as fruitless as a sermon to a tyger or a rattlesnake. The cruelties of the Spaniards must, by candour, be partly imputed to the profusion of torture and human blood which every where met their eyes in this unhappy country, as such scenes change the very nature of man, and inflame him like the carnage of a battle.

Numerous bishoprics and archbishoprics have been instituted by the Spaniards throughout their American possessions; but the ecclesiastical geography, if even accurately arranged from the latest information, would little interest the general reader. The prelates are nominated by the king; and the decorations of the churches are excessive.

The archbishopric of Mexico is extremely opulent, but still esteemed inferior to the bishopric of Puebla de los Angeles. The ecclesiastical courts are numerous; and the Holy Tribunal of the Faith, or in other words the inquisition, is extremely vigilant and severe\*. The chapter of the cathedral comprehends twenty-six ecclesiastics. While the revenue of the archbishop is computed at 100,000 dollars; the dean has more than 10,000; the canons from 7 to 9000; the lesser canons from 2 to 4000. All the curates are named by the viceroy, from a list of three proposed by the bishop, but the first is always preferred. Some curacies are worth many thousand ducats; and one in the archbishopric of Mexico is valued at 14,000 ducats a year; while many of the curates run a career of ambition, and become prebendaries and bishops. Formerly the religious orders held many curacies; but at present they are chiefly bestowed on secular priests†.

There are two archbishoprics, those of Mexico and Guatemala‡, with eight bishops, Puebla de los Angeles, Oaxaca, Durango, Mechoacan, Antequera, Guadalaxara, Yucatan, and Chiapa. The curacies are computed at 235, which may be regarded as a proof of a very thin population, the parishes in the little kingdom of Portugal being computed at 4000.

GOVERNMENT.] The ancient government of Mexico was an hereditary monarchy, tempered however by a kind of election not unknown in the barbarous ages of Europe, by which a brother or nephew of the late king was preferred to his sons. Despotism seems to have begun with the celebrated Motezuma. There were several royal councils, and classes of nobility, mostly hereditary. The nobles were styled *pilli* or *tlatoani*; but the Spaniards introduced the general term of *cacik*, which Clavigero says signifies a prince in the language of Hispaniola; but is by some asserted to imply a priest among the Mahometan Malays. Land

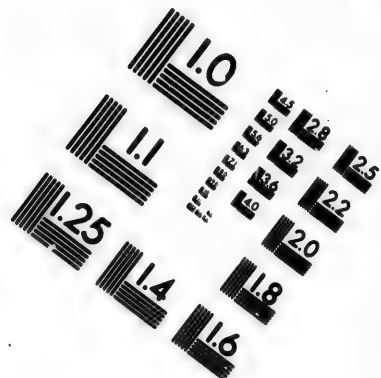
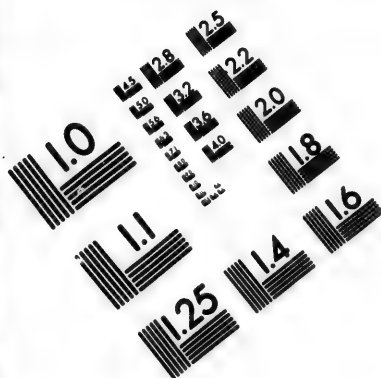
\* Eitalla, xxvi. 282.

† Alcedo, art. *Nueva Espana*.

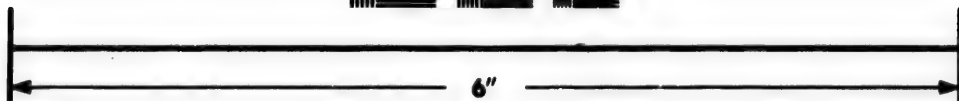
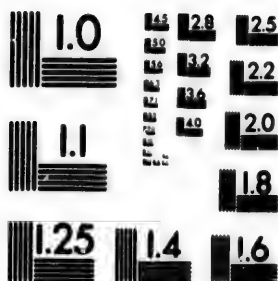
‡ New Spain is divided into four archbishoprics, Mexico, Guadalaxara, Durango, and San Luis de Potosi. No where does the inquisition exert so oppressive and cruel power. No where is the human mind so crushed and abased. *Pike*.







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was not supposed to belong to the monarch, but was alienable by the proprietors. As writing was unknown there was no code of laws, but Clavigero has preserved some traditions on the subject. Their armour and tactics appear to have been extremely rude.

It is supposed that the Mexican empire commenced about the Christian year 1320. The sovereigns seem to have been chosen indifferently from the royal family. The political system was feudal, there being 30 families which composed the first class in the state, and each of them had many thousand vassals. In the second class there were about 3000 families; the vassals being in fact slaves, while the lords had the power of life and death.

The laws were very severe; and numerous crimes were capital. As in Japan, the sons of the great were, during their absence, retained as hostages at the court.

Each province was subject to a tribute, excepting certain nobles, who were obliged to take the field with a certain number of vassals, the chief characteristic of the ancient feudal system in Europe.

The viceroyalty of Mexico may be regarded as the chief in Spanish America, and is extended over a territory equal to an European empire. But there are several inferior governors, named by the Spanish sovereign. The large domain of Guatemala is ruled by a president, who is also captain-general, or commander of the troops. The interior provinces also form a separate presidency: but the northern provinces being chiefly held by religious settlements, the civil authority is less considered than the ecclesiastical. A lieutenant-governor of the two Californias presides at Monterey. The government of Florida is of small importance.

No small part of the viceroy's power consists in the patronage of all the churches. His salary was formerly 40,000 ducats, afterwards 60,000, and lastly 84,000, exclusive of the disposal of lucrative offices, monopolies, connivances, presents, &c. which sometimes arise to an enormous amount. His court is formed on the regal model, with horse and foot guards, a grand household, and numerous attendants. The series and history of the viceroys may be found in the work of Alcedo †.

There are three grand tribunals, called Royal Audiences, that of Guatemala, that of Mexico, and that of Guadalajara. The *Regente*, *Grand Oidor*, or chief judge, is an officer of great importance. The *Acordada*, or Holy Brotherhood, forms a powerful engine for the punishment of crimes, and employs about 10,000 persons ‡. There are also several inferior tribunals, which decide small causes without expence, and with great promptitude. The greater *alcaldias*, or bailiwicks, in New Spain are computed by Alcedo at 128; those of Guatemala at 25: but he does not specify those of the third audience. Thiers has described the justice of the little country *Alcalds* from his own personal experience.

**POPULATION.]** The population of all the Spanish provinces in North America has been estimated at little more than 7,000,000; of whom the natives, called Indians, are supposed to amount to 4,000,000; and the Spaniards and inhabitants of mixed races are computed at 3,000,000, of which the Spaniards may constitute one-third. This calculation is however considered as liberal, while it is probable that the whole population of Spanish North America does not exceed 6,000,000; nay as will after-

\* Estalla, xvi. 288.

‡ See afterwards the account of the capital.

† *Art. Nueva España.*

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† Careri in 1697 a View of New Spain, 1,511,000, the square 235. This truly im curious example of Ge

‡ Viagero, xvii. 10 work in the mines, or at his will.

wards appear, it is far less\*. The small-pox is remarkably fatal; and the black vomit, already mentioned as allied to the yellow fever of the United States, acts at intervals with the ravages of a pestilence. The number of priests, monks, and nuns is also injurious to population; which, however, appears upon the whole to have greatly increased. In 1612 the inhabitants of Mexico were computed at 15,000; they are now 140,000†.

The population of New Spain is composed of the same elements with the other Spanish colonies. There are seven races: 1. Individuals born in Europe, vulgarly called *Gachupines*; 2. Creole Spaniards, or whites of European race born in America; 3. The Metis (*Mestizos*), descendants of whites and Indians; 4. Mulattos, descendants of whites and negroes; 5. Zamboes, descendants from negroes and Indians; 6. The same Indians, or the indigenous copper race; and 7. The African negroes.

The population of America, before the European conquest, appears to have been greatly exaggerated, as usual in every case of the like nature; and from rough calculations, offered even by classical authors, perhaps four-fifths may be always deducted. That this is the case at least with the discoverers of new countries, may be judged from our own enlightened times, in which the English voyagers to Otaheite supposed the inhabitants to exceed 100,000, when, upon actual enumeration, there were found little more than 16,000. It is probable that when America was discovered, the whole population, including the West Indies, did not exceed 4,000,000. Besides the usual mistakes, there was an additional source of exaggeration, as the Spanish conquerors, like knights-errant, counted hundreds by thousands; and the oriental vein of hyperbole, introduced by the Moors, has tainted the early Spanish authors. If we allow that a hundred or two of Europeans could subvert a mighty American empire, we must imagine that its armies were small, as well as cowardly and unskilful.

Estalla has justly observed, that even the benevolent settlements of Penn have greatly diminished the number of natives in their vicinity; and he proceeds to explain the causes of this decline, though not in strict accordance with his former arguments above recited, in which he attempts to deny that any diminution exists‡. He says that one of the chief causes why the population has not augmented in a greater degree, is the little care formerly taken to avoid epidemical disorders; while latterly effectual progress has been made in this benevolent purpose. The cleansing of the streets, the evacuation of standing waters, an exact police, the neatness of the inside of the houses, personal cleanliness, and many other causes which contribute to health have attracted the attention of the latter viceroys; and it is to be hoped that all the causes of pestilential diseases will in time be remedied.

It is well known that the small-pox is extremely fatal to the natives of

\* From the recent travels of Holms, it appears that the population in Mexico is far superior to that of Peru.

† Careri in 1697 computed them at 100,000. Humboldt, in what he calls a Statistical View of New Spain, estimates the number of inhabitants of the *Intendancy* of Mexico at 1,511,500, the square leagues at 5,927; and the inhabitants of each square league at 255. This truly important information he repeats on the margin of 100 pages; and this curious example of German plagiarism is absurdly copied by the English translator!

‡ Viagero, xxvii. 196. The *Mita* no longer exists in New Spain. The Indian may work in the mine, or do any other labour, or he may pass from one mine to another at his will.

America, on account of the thickness of their skins, which prevents the passage of the noxious matter. This malady appears at considerable intervals of time; and on its last appearance so great attention was paid to the sick, that there perished not one-fourth part of the usual number. The charity of the Spanish Mexicans spared no effort; and so great were the contributions, that 70,000 dollars remained after all the necessities of the sick had been abundantly supplied.

The same author observes, "that though he has not been able to acquire exact information concerning the population of New Spain, yet by the most intelligent computations, there are in the Intendency of Mexico 1,200,000 souls, including 140,000 for the city. And by the proportion between this province and the others, as well as by the best founded calculations, it may be supposed that there are, in all the kingdom, 3,500,000 inhabitants\*."

M. Thiery, from the information of a well informed officer in the Spanish government at Vera Cruz, says, that from Panama to California and Sonora on the one side, and from Carthagena to the Mississippi on the other, including a surface of more than 2,000,000 of square leagues, the actual enumerations did not present 1,000,000 of souls, comprizing not only all the Spaniards, but the Indians, mingled races, and negroes†. This would be truly surprizing, as the population of the Spanish dominions in North America is understood to be far greater in proportion than of those in the southern part of that continent. But upon the whole there was reason to believe, after the perhaps partial estimation of Estalla, compared with the surprizing diminution assigned by M. Thiery, that the whole population of the Spanish possessions in North America could in no case exceed 3,000,000. But in 1794 the population of New Spain appeared, from reports made to the viceroy, to be 4,483,529. In 1803, Humboldt estimates the inhabitants at 5,800,000, and in 1808 at 6,500,000‡.

ARMY.] The minute account of the Mexican forces, published by Estalla, is a truly singular document; and it may be doubted whether the publication was strictly consistent with the maxims of political prudence. It would appear, so far as a calculation can be made where the numbers are not always given, and those omitted being supposed 3000, that the troops in New Spain are as follow:

|                |   |   |          |
|----------------|---|---|----------|
| Regulars       | - | - | 5,982    |
| Militia, &c.   | - | - | 31,523   |
| Garrisons, &c. | - | - | 5,686    |
| Total          |   |   | 43,191 § |

This is certainly a considerable force; but the local services of the garrisons can scarcely be dispensed with; and those of 30,000 Spanish militia, at a time when even the armies of that country are little celebrated, may be supposed only formidable to savages. The chief reliance would of course be placed in the regulars, who by all accounts are very ill armed and accoutred. And after this solemn enumeration, it may well be doubted whether the whole grand viceroyalty of New Spain could send into the field 15,000 effective men. This province seems not how-

\* Viagero, avril. 19.

† P. 37. He deserves little credit.

‡ Pike computes the regular force of New Spain at 60,000. The militia, of little more consequence than the Aborigines, he estimates at 100,000.

§ Thiery, l. 195.

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‡ A kind of *lettres de no*

ever to share the domestic discontents which have appeared in some of the others, having been generally favoured by the Spanish monarchs, who justly regard it as the richest jewel in their crown.

REVENUE.] The Spanish armies in America must however depend, in a great measure, upon the supplies sent from the parent country: the navy is also that of the parent country; but there are many guard-ships, and commercial vessels, solely appropriated to the American colonies\*. The revenue which Mexico yields to the Spanish crown has been shewn by Dr. Robertson to amount to above 1,000,000 sterling, but there are great expences. By the most recent account, the total revenue derived by Spain from America and the Philippines, is 2,700,000*l.* of which one-half must be deducted for the extravagant charges of administration: It has been asserted, that the king's fifth of the mines of New Spain only was 2,000,000 sterling, which would swell the annual produce of the Mexican mines to 10,000,000. Dr. Robertson shews, from Campomanes, that the whole produce of the American mines is 7,425,000*l.*, of which the king's fifth, if regularly paid, would be 1,485,000*l.*, and it is probable that the mines of New Spain or Mexico, prior to the opulent discoveries in the north-west provinces, did not yield above one-half of the whole amount †.

The tythes of the cathedral churches at first belonged entirely to the crown, and the clergy were paid from the royal treasury; but this plan has since been altered. It is unnecessary to enter into the details on this subject. The tythes of Panuco, New Leon, and Arispe, in Sonora, produce 60,000 *pesos*. In other provinces the *ninths* are deducted for the use of the king, and valued at 190,000 *pesos*. These ninths are thus estimated: of four equal parts, two are allotted for the bishop and chapter, and the other two are divided into nine portions, namely, two for the king, three for building and repairing the church and hospital, two for the salaries of the curates, and the two remaining are disposed by the chapter in paying dignitaries, canons, prebends, and other persons employed in the church. The annates, paid by ecclesiastics in the royal nomination, are of half a year's revenue; but the smaller livings, which do not exceed 413 *pesos* four reals, only pay a month. This branch clears 65,000 *pesos*. That on the archbishoprics and bishoprics is uncertain, and of rare occurrence. It was proposed to raise six per cent. on all ecclesiastical benefices.

Civil officers pay half a year's salary, which is alike demanded on any advancement or augmentation. This tax might clear 68,949 *pesos*. It is joined with that of the titles of Castille ‡, which yields 13,660*l.* The sale of offices produces 30,000; that of lands and composition for defective titles, only 2,500.

\* The extraordinary fondness of the natives for cock-fighting gave rise

\* Four corvettes of 12 guns, and one goletta, are stationed at Monterey, to supply the presidencies of North California with necessaries. These vessels performed the Spanish expeditions to the north-west coast of America. La Perouse, ii. 207.

† The *peso fuerte* of Spain, called *piastre forte*, is worth from five francs to five francs eight sous, or about 4*s.* 6*d.* but that of commerce is ideal, and is only worth three lires five sous of France, equal to thirty-two and a halfpence sterling. Sixty-four *pesos duros*, or *fuertes*, just equal 85 *pesos de cambio*. As the latter are chiefly used in commerce and accounts, it is to be supposed they are here intended: but see a passage in the article *pesos*, which indicates that Estalla uses the hard dollar. Even Dr. Robertson's calculations, in his history of America, are subject to this difficulty. Bourgoing inserts all the colonial accounts to be in hard dollars. They are always in hard dollars, as appears from Humboldt; and Dr. Robertson's calculations should be all re-considered.

‡ A kind of *lettres de noblesse*.



to a formal establishment in favour of this diversion, according to our author, much more rational than bull fights, whence a revenue to the royal treasury of not less than 50,000 *pesos*; and in order to increase this advantage, a hall or theatre was constructed in the village of San Augustin de las Cuevas, much frequented by the citizens of Mexico during Easter. This building cost 6,838 *pesos*; and in two years and eight months had yielded 1,740 *pesos*."

A tax on leather was imposed by desire of the shoemakers. Snow and ice are monopolized in Mexico and other chief towns of New Spain; the product is about 30,000 *pesos*. That of stamped paper clears 60,000; all the copper produced in the mines of this viceroyalty is bought on the king's account, and deposited in the royal magazines, whence it is sent to the mint, or sold to artisans and others: but the gain is only 1,600 *pesos*. That on lead is only five per cent. amounting to about 80 dollars a year; while the tenth of alum is 4,446. "A mine of tin, which is wrought near Durango, pays ten per cent. being 180 *pesos*."

The voluntary donations, chiefly given by the loyalty of the Mexicans, vary according to circumstances. Those on occasion of the last war against France amounted to 591,710 *pesos*; of which 98,699 were annual during the continuance of hostilities. The sum would have been greater if the donation had not been preceded by a loan to the sovereign, without any interest, of 3,967,000 *pesos*.

The customs and other taxes payable at Vera Cruz are too minute and prolix to deserve insertion; and there are some other provincial duties in the like predicament. There is a tax of nine *pesos* upon each negro brought to the port of Campeche; and it were well if every government raised a high tax upon this traffic. A ship of the Philippines pays at Acapulco 2000 *pesos*. The duties payable at the garrison of Carmen (probably that at the mouth of the Lagoon of Terminos, but there is also an isle so called in the gulf of California) amount to 220 *pesos* only. The pearl fishery of California formerly yielded a considerable revenue, but it is at present abandoned, though with hopes of its speedy revival. The whole revenue appears to have been about 1,500,000*l.* sterling.

**POLITICAL IMPORTANCE.]** The political importance of colonies is of course merged in that of the parent country. If the spirit of bigotry could be suppressed, which neglects every worldly concern, and if the Spanish colonies were thrown open to the industry and enterprise of foreigners, they might recover from their enfeebled state, and oppose a bold front to any invaders. In the present situation of affairs, perhaps sound policy would even dictate their emancipation, on condition of paying an annual tribute, which might even be more considerable than the present revenue, from the suppression of useless offices and emoluments, and the extortion of powerful individuals, which yields nothing to the revenues of Spain\*. Dr. Robertson has observed that the Mexican gazettes are filled with descriptions of religious processions, and edifying accounts of the consecrations of churches, festivals, and beatifications of saints, and other superstitious baubles, while civil and commercial affairs occupy little attention. The advertisements of new books shew that two-thirds are treatises of scholastic theology and monkish devotion. Even this state of affairs is better than the sanguinary idolatry of the

\* In 1797 the Count de Galvez was proclaimed king in the streets of Mexico; but his loyalty induced him to quash the insurrection. The reward was that he was poisoned soon after, being regarded as too powerful for a subject. *Pike*.

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\* Estalla, xxvii. 2

† François De N Paris, 1804, 8vo.

natives: but few exertions of ability or industry can be expected from such fanatics; and it may easily be predicted that a continuance of this spirit would render the people as unfit for war as for pacific enterprizes; and that if Spain do not amend her colonial system, her rich possessions will, at the first onset, become a prey to their northern neighbours.

New Spain is in a state of military dependence on Havana, which is the only neighbouring port that can receive squadrons, and is the most important point for the defence of the eastern coast of New Spain.

The remarks of a late Spanish author on this important subject deserve some attention\*. "The mode of making war with the savages on the frontier provinces is very different from that of Europe, as it consists in sudden invasions of the *Indios bravos*, or wild natives, after which they retire to the interior of their country, where it is very difficult to pursue them. For this purpose there are light companies, as well in the three provinces subject to the viceroyalty, (that is, the three audiences,) as in those that are independent; but peace is always preferred, and we only make war in consequence of their invasions.

"The situation of New Spain secures it from any foreign invasion. There is no haven on the east save that of Vera Cruz, strongly defended by a castle and fortifications, and still more by the north winds, which prevent any squadron from remaining long on the coast.

"On the side of the Pacific Ocean there is no nation that would undertake a formal expedition, on account of the great expence and waste of time, not to mention the hazards of the passage. Still more impossible would be an invasion by the province of Texas; because, not to speak of the immense distance, the passage of an army would be found impossible, through so difficult a country, void of means of subsistence." He then proceeds to mention the want of water, and the difficulties which M. Pagés encountered, without hinting a suspicion that his journey is a mere forgery.

This worthy patriot thus affects to conceal the chief danger, that from the United States, though he speaks in just terms of admiration of their exertions, and of the spirit and talents of the inhabitants. The rumoured war between Spain and the States, on account of the boundaries of Louisiana, might soon reveal that the province of Texas, instead of wanting water, suffers from its abundance, and perhaps the sole impediment would be to distinguish the marshes from the verdant meadows. The chief difficulty would be for the States to find troops, for their brave militia would not easily be induced to quit their homes and families for this distant warfare; especially as the States have already too much land, and their wisdom would perceive that the acquisition of mines, and too easy wealth, at this period, might obstruct a far more important object, the cultivation of their own territory, and its gradual extension towards the Pacific, so as to command the East India trade. But if the contest became serious; if the honour and lasting advantage of the United States were once supposed to be implicated, they could by one effort send a sufficient force to seize the whole empire of Mexico, the difficulty being in the march, and not in the battle; and after an easy conquest, open a grand canal between the Atlantic and Pacific Oceans, and command a prodigious commerce.\* Let me not however be again accused by the president of the French senate † of wishing to excite wars among all

\* *Estalla*, xxvii. 215.

† François De Neufchâteau, *Tableau des vues que se propose la Politique Anglois.* Paris, 1804, 8vo.

nations, because the nature of my work required some political remarks in the event, alas! too natural, that neighbouring nations should sometimes enter into hostilities. No: could my humble whisper command attention, peace and amity would encircle the globe; and nations should only be rivals in the arts, the sciences, and general beneficence.

### CHAPTER III.

#### CIVIL GEOGRAPHY.

*Manners and Customs. — Language. — Education. — Cities and Towns. — Edifices. — Manufactures and Commerce.*

**MANNERS AND CUSTOMS.]** THE manners of the ancient Mexicans have been described by many authors, but a few singularities may be here mentioned. A peculiar feature of the Mexican language was, that a termination, indicating respect, might be added to every word. Thus, in speaking to an equal, the word father was *tatl*, but to a superior *tatzin*. They had also reverential verbs, as appears from Aldama's Mexican grammar. Thus, as cowards are always cruel, the most ferocious people in the world were at the same time also the most servile and obsequious. Their wars were constant and sanguinary; and their manners in general corresponded with this barbarous disposition, the principal warriors covering themselves with the skins of the sacrificed victims, and dancing through the streets\*. The year was divided into 18 months, each of 28 days; and five days were added, which were dedicated to festivity. They cultivated maize and some roots; but their agriculture was rude, and they were strangers to the use of money. On the death of a chief, a great number of his attendants were sacrificed.

But since the progress of Christianity, and the long establishment of a foreign yoke, the manners have become more mild and amiable. So extremely attached are they to games of chance, that they will even pledge their own persons, as Tacitus reports of the ancient Germans; and the Spaniards make use of this infatuation to inveigle recruits for the Philippines, where they often display great valour†. They also sometimes pledge their persons for a debt, and labour in the public works until it be defrayed. As nourishment is cheap, and labour dear, they will in other cases gain enough in two days to support them for the week, whence they fall into drunkenness and other excesses, which our author ascribes to the want of education; whence also their impudence, and disposition to petty thefts, in which they are very dextrous. It is to be regretted that education is not bestowed, for they have a natural talent for many arts, working in wax, ivory, and glass, or rather earthenware, with great skill; but as they do not make previous models, nor know the principles of design, nothing is perfectly finished. When the academy of the Three Noble Arts was established, an Indian presented a scull, which neither by the sight, touch, nor weight, could be distinguished from nature, and yet it was wood. Those who have received a

\* The dress was a loose cloak and a sash girt round the naked waist. From the ancient paintings it appears that the under lip was pierced, to receive an ornament of gold. This custom La Perouse and others have observed on the north-west coast of America.

† Estalla, xvi. 385.

little education but or petty magistra for their skill in which is the same

M. Thierry, wh of his interesting Oaxaca, or about gives striking pict Indians have a m scourges in the h cakes of maize, ca duty of the fema chille, a kind of f taumates, or love- which is also used of woodmen. Th or *agave American* are three and four for thread and clo asparagus, while th balsam, honey. A head is taken off, two or three Fren following day and the cavity, is witho plant be exhausted a new crop. Such pleasant to an Euro capable of being cla

The rude pyrami which are frequent sepulchres of disting ble the *glacieres* of raised for preserving simple plan, are alld women are sometim fashion of this hot Mexican language, whisper, in which th be distinguished.

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\* *Foyage*, Cape Franço  
† The pulque is a very disagreeable cadaverous fine  
‡ He adds, that when th cada rutito, *hoyas lucuado*,

little education become honest and decent, and are often named Alcalds, or petty magistrates in the villages. The Indians are also remarkable for their skill in preparing and staining the skins of the *cibolo*, or *tasugo*, which is the same as the bison, or wild buffalo.

M. Thiery, who has painted with a free and lively pencil the incidents of his interesting journey from Vera Cruz to Orizava, and thence to Oaxaca, or about 350 British miles, in the empire of Mexico, often gives striking pictures of the national manners\*. He observes that the Indians have a marked aversion to the negroes, whom they regard as scourges in the hands of their masters. Their chief food consists in cakes of maize, called *tordillas*, which, as they are eaten hot, it is a chief duty of the females to prepare. They are often accompanied with *chille*, a kind of sauce, composed of pimento and *lyco-perficon*, that is, *taumates*, or love-apples, pounded together with salt and water, and which is also used with meat and fish. Their little huts resemble those of woodmen. The universal drink is *pulque*, drawn from the maguey, or *agave Americana*, which is to them of infinite use; the leaves, which are three and four feet in length, serving as tiles, while the fibres serve for thread and cloaths, the stem as beams, and the young sprouts as aparagus, while the juice supplies them with water, wine, vinegar, acid, balsam, honey. An incision being made to the heart of the plant, the head is taken off, and a cavity formed in the trunk, sufficient to hold two or three French pints. The top is then replaced, and during the following day and night the sap transudes from the young leaves into the cavity, is withdrawn the following day, and afterwards until the plant be exhausted and perishes, when the buds are planted to secure a new crop. Such is the origin of this noted beverage, which is not pleasant to an European eye, as being of a dirty white colour, and incapable of being clarified †.

The rude pyramids, sometimes 40 feet in height, on a base of 20, which are frequent in the Mexican dominions, seem to have served as sepulchres of distinguished chiefs. Thiery says, that they much resemble the *glacieres* of France or St. Domingo, a kind of rude hovels, raised for preserving ice. Baths for the sick, constructed on a very simple plan, are also not uncommon near the fountains. The Indian women are sometimes extremely beautiful, and dress in the Spanish fashion of this hot country, that is, in a shift and petticoat. The Mexican language, which they continue to speak, seems a perpetual whisper, in which the liquid *l* and the *s* are almost the only sounds to be distinguished.

As the first colonists were chiefly Andalusians, the Spanish language, according to Estalla, is spoken with an accent not agreeable to a Castilian; and the men, as well as the women, have a kind of fawning affability, not agreeable to Castilian pride. When a Mexican lady receives a visit she asks a long roll of questions all at once; "how do you do?" "how is your health?" "how were you the other day?" although they may not have seen each other for months. When two gentlemen meet, if the one feel himself inferior, it is "you are my lord;" "you are my all;" or even, "you are my great lord;" while the women say, "you are all my desire ‡." The Spanish language is much

\* *Poyage*, Cape François (St. Domingo), 1767, 2 vols. 8vo.

† The pulque is a very nourishing liquor. It somewhat resembles cyder, but has a very disagreeable cadaverous smell, which some process might perhaps remove.

‡ He adds, that when they take leave they say, *¡Dios, que hasta la muerte, he: hasta cada ratito, hasta la muerte*.

corrupted in this country, an infinity of foreign expressions having been adopted, and a new acceptation given to many words and expressions; nay, there is even a mixture of the Mexican. This last might have enriched the language, new words being necessary for new objects; but in most cases they are merely adopted from ignorance or affectation. Hence to a Spaniard some writings become more obscure than if they were in a foreign tongue; and if Spanish schools were not established, the language would become as distinct as the Portuguese; and they affect to ridicule those who do not understand their dialect, of the impropriety of which Estalla gives several examples. Even their authors cannot advance in the direct road to the temple of fame, but stray into thickets, and devious paths of quaint expression, where they often lose their health and reputation. They also often die of bombast and obscurity; and a work called a Continuation of the History of Solis might be regarded as the very quintessence of extravagance and pedantry.

These faults, says our author, disappear on the view of their extensive charity, of their burning devotion, and of their love to their sovereign. On occasions of epidemic disorders, and other public calamities, their beneficence is evident. The charitable establishments, and works of piety would do honour to the parent country. Their devotion and zeal in the divine service must be seen, he adds, to be believed; and their loyalty is conspicuous in their free donations upon any public emergency.

Some little habits may also deserve mention. All the Mexican ladies smoke tobacco, in little cigars of paper, which they take from a case of gold or silver, hanging by a chain or ribbon, while on the other side they wear little pincers of the same metal. Continually occupied in this amusement, as soon as one cigar is exhausted another is lighted; they only cease to smoke when they eat or sleep, and even light a cigar when they bid you a good night. You may imagine, says our author, how ridiculous and disagreeable even a pretty woman becomes, with the eternal cigar in her mouth; how richly flavoured her breath must be; and how much her health and complexion are vitiated by this indecent and filthy custom. Girls never smoke in the presence of their fathers; nor are the latter supposed to know that they smoke, though they give them money to buy cigars. This affectation of ignorance is truly diverting: when a mother wants tobacco, she says to her daughter, "give me the cigars which I gave you to keep," knowing that she has given none; but with falsehood and dissimulation pretending to save appearances of respect. The girls, who do not fear their mothers upon much more important occasions, are so circumspect in this chief business of their lives, that if the mother enter the room, the cigar is instantly hidden, because it would be very unpolite to smoke before the *manita*, for so they call their mothers; while the father is styled *satita*, a name also given in fondness to any man whom they esteem, *satita* such a one being the physician, or any other person of great and immediate confidence. In another place he observes that the girls address their mothers by *thou*, while the latter call them *sisters*, as expressing greater tenderness, but in fact that they may avoid the appearance of age.

The quantity of gunpowder consumed in fireworks, or rather squibs and rockets, is surprising, as they are played off all days in the year, except holy Thursday and Friday. The continual noise of bells is also horrible, as on the smallest occasion one is deafened every hour; but it is said that this infernal clamour is on the decline.

They are extremely fond of gaming, and affect supreme indifference and cheerfulness when they lose. A fellow enters a gaming house, produces

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duces 10 or 20 dollars, which had been tied up in a corner of his mantle, lays them on a card, loses them; and, without saying a word, produces a cigar from behind his ear, lights it, and walks out, as if nothing had happened. The men easily assume a military air, and learn their exercise with much facility; but the soldiers of the villages are superior, as usual, to those drawn from the lees of the capital. When a boy has completed his rudiments, it is a day of rejoicing for the school and the family. A procession is formed from the school, with standard, drums and fifes, to the house of the parents. The masters say that this stimulates application, but they rather wish to profit by the foolish vanity of the relations. When any youth pleases in a ball, by his dancing, music, or voice, all, even the ladies, give him what is called the *gala*; nor can he refuse them without affronting the assembly. The dances of the common people are very wanton; even the most modest dances, in all ages having been regarded as sacred to love, or preparatory to marriage, as innocent stimulants of the natural propensities of the sexes: nor are the songs dissonant from the indecent movements. In superior houses serious dances are usual; but for the sake of variety they are mingled with those of the country, as in Spain with the *voleo*. The eve and day of All-saints there are great crowds at the doors of the shopkeepers styled of Christ, both on foot and in carriages, to buy toys and sweet-meats for children, in both which the Mexicans excel. On other solemn days there are great assemblies, in different parts of the city, which are decorated with illuminations, and other ornaments of considerable invention. At the Indian festival in the sanctuary of Guadalupe, near Mexico, an immense multitude appears, even from distant provinces, and much drunkenness and disorder ensue: but the Spaniards observe the festival in great devotion to that celebrated image, of which there are medals engraved by the celebrated Don Geronimo Gil.

In the description of the city of Mexico, some idea will be given of other festivals there celebrated. The citizens were formerly contented to follow the trade of their fathers, or to obtain some chaplaincy, the number of chaplains being infinite, and often with considerable salaries\*. They studied in the university of Mexico, and vegetated in that city, with the warm approbation of their parents, who thought it the happiest day of their lives when a son became a priest, or a daughter a nun. At present matters are happily a little changed; many Mexicans leave their country to visit the *Peninsula*, a new name for Spain, or to view courts, and aspire to all employments political, ecclesiastic and military: nay, the women willingly wed ministers, officers, and merchants, and leave their country with pleasure. The Creoles, as our author here repeats, have the happiest dispositions for all the arts and sciences, though education be neglected, and the method of study be far from being worthy of the natural talents.

In this happy climate nature anticipates her rights, especially in the female sex, which of course is sooner exhausted than in Spain. At the age of thirty, especially if they have borne some children, women appear as aged as in Spain at fifty; the teeth falling out, and the face being totally faded. The climate no doubt contributes to this; but still more the shocking plan of diet. The whole day is employed in eating: in the morning they take chocolate; breakfast at nine; take an *once*, or another breakfast at eleven; and soon after noon they dine. After having taken the *siesta*, or day sleep, they return to their chocolate,

\* Estalla, xvi. 301.



which is succeeded by an afternoon's luncheon, more chocolate, and a considerable supper. A still greater absurdity is, that you can only acknowledge the goodness of your dinner, or supper, with the tears in your eyes. A meal at which no one cried would be regarded as good for nothing, a great delight of the ladies being to shed tears all the time; such is the force or quantity of the *chile*, or pimento, with which they season every dish, a dainty no less disgusting than prejudicial to health. To these excesses in food may be added the infamous practice of smoking; so that it is not strange that in a few years the women become decrepid, and that they suffer greatly from defluxions\*. It may be matter of surprise that the influence of the more powerful sex does not prevent these disorders, by authority, neglect, or contempt; but it must be considered, that in Spain itself, so much is the character debased, that the politeness of the men has reduced them to absolute cyphers; and so severe is nature, that wherever females obtain the ascendancy, they not only work political ruin, of which regal France affords a disastrous example, but their own degradation and calamity, while their happiness totally depends on the superior judgment and equanimity of their partners.

The Mexican ladies prefer the Spaniards, whom they call *Gachupins*†, to the Creols; and have reason on their side, because the former are more constant and generous, and give them all sorts of pleasures and diversions; while the Creols, born to abundance, inheriting property without labour, commonly waste it in a few years, though they bear the misfortune with indifference; whence the proverbial saying concerning the Creols, "the father a merchant, the son a knight, the grandson a beggar."

The women in general are moderate in their apparel: a laced veil descends to the feet, the manufacture of the country, and costing from 80 to 100 dollars. The *basquina*, or large upper petticoat, also descends very low; and the shoes are always neat, sometimes rich. When they are at home, or go out in a carriage, they wear what is called the *rebozo*, or muffler, like the shawls now used at Madrid. They do not now load themselves with those costly gowns called *metallic*, because they were of a gold or silver tissue, so stout as to stand upright; but in their place have adopted the present fashions of Spain, which have the double advantage of costing far less, and of giving more grace and a more gay air to the fair sex. Yet the Mexican women are ostentatious of wealth, in the quantity of their diamonds, and the size of their pearls, as may be observed in their balls and festivals. The dress of the men has also undergone the same change; and there is little difference in this respect between them and those of Spain, though the houses boast greater wealth in silver images of saints, cornucopias, chandeliers and other furniture.

The men of the lower class, whether whites, or of whatever other cast,

\* Our author adds, that when this is the case, the ladies wear a small handkerchief pinned to one side of their head dress, which they call *barbiquejo*; and during another period peculiar to the sex, they fasten over the forehead a handkerchief, commonly black, which is called *pena*.

† Perhaps from *gachon*, a spoiled child.

Humboldt asserts, p. 133, that the descendants of negroes and female Indians, born at Mexico, Lima, and even at Havana the odd appellation of *Chino*, or Chinese. Estalla says with more probability that this name is given to the natives of the Philippine Islands who sojourn or settle in New Spain, in consequence of the great intercourse by the port of Acapulco.

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were all, a few years ago, wrapt up in mantles, without any other dress, except drawers and a little hat. This dress served them for street and chamber, and even for bed, which was merely a raised part of the room, covered with a mat called *petate*. The greater part, composing two-thirds of the inhabitants, had no other articles whatever. But latterly effectual regulations have been made to prevent the indecent nakedness of this class, who are forbidden to enter various public places, except they be decently clothed, so that this evil begins to be remedied. Formerly it was common to see them drop their mantle after mass, so that nothing remained but the drawers. It is surprising that our author should make no reflection on this singularity, after having depicted the excessive ornaments of the rich; as there cannot be a more striking sign of a bad government, while a prosperous nation may easily be known by the numbers of the middle class, in which are chiefly centered the wisdom and talents of society, and by the decent and comfortable appearance of the poor.

The frequent use of the bath partly atones for the want of linen; and the climate being dry and warm, renders this custom agreeable, and salutary against the maladies occasioned by that deficiency. There are at Mexico a great number of baths, and *temascales*, a kind of steam baths used by the ancient natives; but the best order does not prevail, and the police should interfere. This want of linen might certainly have been easily supplied by an industrious people, in so wide a territory of such various climates; and even the use of fine cotton next the skin is far from being so salutary as that of linen, the nations who use it being observed to be more subject to inflammatory and cutaneous disorders.

LANGUAGE.] Of the Mexican language grammars and dictionaries have been published in the country; and from the few specimens contained in European publications it appears to differ radically from the Peruvian. The words frequently end in *tl*; and are besides of a surprising and unpronounceable length, resembling in this respect the language of the lavages in North America, and some of the African dialects; but strongly contrasted with those of Asia, in which the most polished, as the Chinese, are monosyllabic. According to Clavigero the Mexican tongue wants the consonants *b*, *d*, *f*, *g*, *r*, and *s*; in which respect only, though unobserved by that author, it strictly coincides with the Peruvian; except that the latter, instead of the *s*, is said to want the *z*, a mere difference of enunciation. But the Peruvian is a far superior and more pleasing language, though some modifications of the verbs be of extreme length. The wild enthusiasm of Clavigero compares the Mexican with the Latin and Greek; though as like, as he to Herodotus. Some of the words are of sixteen syllables. Their poetry consisted of hymns, and of heroic and amatory ballads. They had also a kind of dramas; but from the specimen produced they do not seem to have been superior to those of Otaheite.

The number of languages in New Spain by Humboldt's account is above twenty; and of fourteen there are already pretty complete grammars and dictionaries. Among them he enumerates those of Tlaximara, and Tepehuana, classed among the large provinces of the north by Alcedo and Estalla. By his account these numerous languages are not dialects, but are as radically different as the French from the Polonesc. This infinity of original languages in South and North America has greatly embarrassed those who are fond of such researches. The Aztec language, or Mexican, is the most widely diffused, extending from lat. 37°, to the lake of Nicaragua, a length of 400 leagues. This language

is rather harsh, and the length of the words often disagreeable: nay in speaking to their curates the Mexicans employ a word of 27 letters, *Nollaxomahuizleopixcatatzin*, which signifies "venerable priest, whom I cherish as my father."

The natives of New Spain have the general resemblance of those of Canada, Florida, Peru, and Brazil, the copper colour, flat and lank hair, little beard, squat body, long eye, the corner raised towards the temple\*, round cheek bone, thick lips, and in the mouth an expression of mildness, contrasting with a dark and stern eye†.

LITERATURE.] *Eltalla* has observed, as above mentioned, the defects of literature in this opulent viceroyalty. A Mexican guide has lately been published in the city, a prodigious exertion: but the Mexican gazette yields greatly to that of Guatemala, which, according to Dr. Barton, sometimes presents interesting memoirs on the antiquities and natural history of the country. Some pamphlets on Mexican antiquities have also appeared; and botany begins to be studied: there has been even recently published a work on mineralogy, digested according to the system of Werner. These are, no doubt, favourable appearances; but why should this wide empire, with so considerable a population, be a century or more behind the United States? The Spaniards are confessedly a people equally solid and ingenious; and the only possible obstacles must be sought in the inquisition, and that degrading fanaticism maintained by the avaricious preponderance of the clergy.

The *Teatro Americano* of Villafenor, published in two volumes folio, 1746, may, with all its defects, be regarded as the chief solid monument of Mexican literature. But two-thirds of this useful work, which displays a detailed chorography of the provinces of New Spain, are occupied with the most prolix documents concerning the clergy and religious foundations, wholly uninteresting except to their own order: nay, the compilation of Alcedo, printed at Madrid 1787, after presenting catalogues and short accounts of the viceroys and governors of the several provinces, often useful to history and geography, is loaded with similar details concerning archbishops and bishops, of no utility in any branch of science. A rational christian, conversant in the precepts of the gospel, above all the humility and self-denial that are inculcated as the very essence and being of religion, will be astonished and afflicted at the deep depravity of human nature, which can convert such a beautiful system of practical morality into a perfidious instrument of avarice and extortion, pride and ostentation. And while the very teachers are thus lost to all sense of propriety, decency, and shame, as not only to load themselves with wealth and honours, generally at the very expence of the poor, for whom the foundations were originally endowed, but to publish splendid descriptions of their usurpations, need we wonder that, by the confession of the Spanish authors, the savages become more corrupt and immoral, in proportion as this new-fashioned system of pretended christianity makes any progress? Nor can it escape the learned reader that, as in the times of chivalry, all wars were wholly conducted at the expence of the king and the barons, except on extraordinary emergencies, when a subsidy was raised on the merchants, and other persons in easy circumstances, so the only poor tax was, so to speak, levied on the clergy, whose rich revenues had been merely assigned, by the pious donors, in support of the poor; and it is well known that it was the suppression of religious houses, and a part of the wealth of the prelates and dignitaries, which introduced the

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\* This is new and very doubtful.

† Humb. 61, 82.

poor tax into England after the Reformation. But the Spanish clergy and religious orders are wallowing in gluttony, luxury, and voluptuousness; while the poor, whom they have despoiled, have not, as we have seen, cloaths to cover their nudity. Yet these are the men who pretend to be the only disciples of the Father of Light, and yet envelope entire regions of the globe in a total eclipse of reason, in a palpable mental darkness, that they may rob without being seen, and enjoy without being questioned. Such reflections are necessarily excited, not only by the deplorable state of the sciences, arts, and industry in this extensive and opulent empire, but by the miserable poverty of two-thirds of its inhabitants.

UNIVERSITIES AND EDUCATION.] The state of education, if it deserve the name, is so intimately connected with that of the universities, and other literary foundations, that an account of the latter must suffice. The university of Mexico, founded in 1551, is styled Royal and Pontifical: and the *cloister* is composed of 251 doctors, of all sorts of faculties, except the faculty of reasoning. It is governed by a rector, elected yearly by the lesser *cloister*, composed of the former rector and eight counsellors, chosen by lot from the doctors and bachelors. The office of chancellor is annexed to the dignity of schoolmaster of the metropolis; his office being to preside at conferring some degrees, while on other occasions he holds the second rank. The statutes were compiled by Palafox, and the method of studies remains the same as at the beginning, and similar to that of Salamanca, that is calculated to diffuse a most glorious darkness\*.

The chairs or professorships are, the First, and those of Vespers, Scripture, St. Thomas, and Duns Scotus; the two last being filled up by the holy order of St. Francis. In law there are the First of the canons, the vespers of the canons, the temporal of the Clementines, &c. In medicine six. In botany a director and a professor, or in the Spanish, a *cathedralist* of botany, who also lectures at the royal botanic garden. In philosophy two; rhetoric one; one for the Mexican language, and another for the Otomite, the two most universal in the viceroyalty, and useful in the conversion of the savages.

At first all the seats were filled by the votes of all the scholars, so that the candidates were obliged to gain general esteem. At present the professors are named by a most venerable junta, consisting of the archbishop, in whose palace it is held, of the regent of the Royal Audience, the dean of the cathedral, the oldest inquisitor, the rector of the university, the master of the metropolitan schools, the professor of the first class of theology, and the dean of the faculty †.

The public library of the university was founded about forty years ago, and is well furnished with old books of divinity, but for new editions of the classics, or new works of science and philosophy, you may look in vain; because, says our author, certain incidents have prevented the full enjoyment of the revenues, though equal to any in the peninsula,

\* There is another university at Guadalupe, or rather two colleges; one the seminary of the cathedral, the other for writing and the Mexican language. There were also two colleges at Guatemala.

† The degree of doctor is acquired at a great expence, generally defrayed by some rich patron. A mark of this degree is a ring. The bonnet and roquet are exposed with great pomp from the balcony of the patron. If a doctor of medicine be named, a spur is put on; probably an old pun, as the same word in Spanish signifies advice; perhaps it may signify that they lend spurs to the disease. *Estalla*, xvi. 330.

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that is, in Spain\*. In fact, the salaries of 251 useless doctors might consume even royal revenues; and it would be preferable to have only one doctor, and 250 new books. This library is open to the public, except on Sundays and holidays, from seven to eleven in the morning, and from three to five in the evening; there being two doctors librarians, a morning doctor and an evening doctor; and one servant to bring the books: all eunuchs worthy of such a harem.

The college of St. Mary-of-all-Saints is the only one of the first rank in the Spanish American possessions. It was founded by the most glorious, illustrious, venerable, and wonderful lord and doctor, Don Francisco Rodriguez, &c. Santos, bishop of Guadalaxara, and dedicated to the Most Holy Virgin Mary, under the advocacy of the assumption; for which, and manifold other reasons, it was baptized St. Mary-of-all-Saints. There are ten dignitaries, four in divinity, three in canon law, and three in civil; "the candidates exhibit public and secret informations of *sobility* (perhaps sixteen quarters), literature, and moral manners; afterwards undergoing a regular examination, in which he must make a discourse, and answer all sorts of arguments." This college, being regarded as secular, is subject to the viceroys. The design was to afford to youth, who had studied in the lesser colleges, an asylum, where they might perfect themselves in theology and law, while it is one of the poorest establishments in the viceroyalty. Yet there is a public library, which, according to our author, contains some rare manuscripts, probably relative to the ecclesiastical history of New Spain. The catalogue of distinguished members of this college was printed at Mexico 1796.

The seminary was founded by an archbishop of Mexico in 1682, according to the exact method ordered by the holy council of Trent. There are at present thirteen professors. As the old edifice was not sufficient, for the students amounted to 400, a new building was erected in 1750. The method of study has been somewhat reformed; and instead of metaphysical subtleties, the belles lettres and useful studies begin to be substituted; and the printed themes begin to display some acquaintance with good authors. The students are also encouraged by rewards, and a more free access into other literary societies. A fund of 60,000 *pesos fuertes*, or hard dollars, yields a revenue of 3000, which serves to found an yearly chaplaincy; and there are scholarships for the poor, with books and cloaths. In the month of August there is a solemn distribution of prizes by the archbishop, amidst a brilliant assembly.

The Jesuits had formerly five colleges, of which two alone remain, and are directed by the viceroy, or rather by a junta, presided by the archbishop, and, in one only, grammar is taught to the Indians†. The other, called San Ildefonso, is nearly on the same footing with the seminary, there being one professor of scholastic divinity, one of law, three of philosophy, three of grammar; but though many illustrious members have endeavoured to exclude the peripatetic subtleties, it has been hitherto found impossible to overthrow the strong barriers against the necessary reformation, which however must succeed at last; and since 1796, the themes begin to display some acquaintance with solid authors. The buildings are magnificent, and may be compared with any in Europe; the chapel and grand hall being the most beautiful in the viceroyalty.

\* Estalle, xvii. 259.

† The late King Charles III. founded a college for noble Indians, under the style of St. Carlos; but as he forgot to assign any funds, the design unexpectedly fell to the ground.

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The college of Spain, having been the instruction of however in a poor enlarged, and for it was still further is still too severe, tution.

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† Estalle, xvii. 26 to 195,000 francs, an able. The professor of Statue of Charles IV. is



The college of St. John Lateran is the most ancient of any in New Spain, having been founded in the reign of the emperor Charles V. for the instruction of those descended from Spanish and Indian parents. It was however in a poor condition, until 1764, when the plan of studies was enlarged, and somewhat approaches to that of the seminary. In 1780 it was still further improved on the European plan; but the course of life is still too severe, and only serves to frustrate the intentions of the institution.

The college of St. Jago is without the walls of Mexico, in a house of the Franciscans, but is at present merely a boarding school for children, who are taught grammar, philosophy, and divinity, such as they are; for Duns Scotus maintains all the obscurity of his reputation, in spite of the opposition of some of the friars. Other religious orders have also public schools. In general, in all these colleges, the ancient plans are obstinately pursued; and all the windows have strong blinds, in order to exclude any modern light, the gravitation of Newton being only known by the corpulency of the professors. The college of San Ramon is rather an hotel, where are maintained the young men from the bishoprics of Havana, and Valladolid in Mechoacan, who study law in the royal university.

Such are the ancient institutions. The modern are of a more pleasing and instructive nature. A deficiency having been observed of men capable of directing the mineralogic operations, so general in this opulent vicereignty, a college of mines has at length been erected, where youth are not only instructed in that science, but in other important parts of education. In the first place, all the antiquated practices of the colleges, in their internal distribution, in the dress, manner of eating, and other forms prejudicial to youth, have been totally banished: whence the happy consequence has arisen, that the scholars have, with less fatigue, and far more advantage, been instructed in all the objects which form a skilful and virtuous man. The studies pursued are Spanish and French grammar, drawing, mathematics, natural philosophy, chemistry, and mineralogy, the practice being throughout united with the theory. Public rewards are assigned in presence of the tribunal of mines, and an assembly of the principal inhabitants, the hall being splendidly adorned, while an orchestra of music diversifies the exhibition. The collection of machines and models is numerous and excellent, and the new edifice said to be elegant and well arranged\*.

The royal academy of the Three Noble Arts is a valuable institution†. The silversmiths are obliged to send their apprentices to study drawing; and it would be well if some other professions were in the like predicament. The academy is provided with good professors in architecture, painting, sculpture, and engraving, in which last 200 *pesos* are given to a master to teach the art to select disciples. There is also a professor of mathematics, to assist the class of architecture. Models of ancient statues have been brought from Spain, and there is a small collection of paintings. The funds are 13,000 *pesos* from the royal trea-

\* Among the first fruits of this institution is *Discurso Elementos de Oristagnosa*, part 1, containing the earths, stones, and salts. Mexico, 1793, 4to. pp. 11. and 171. This work, constructed on the principles of Werner, is designed for the use of the seminary of Mexico.

† *Estalla*, xxvii. 200. The revenue of the Academy of Fine Arts at Mexico amounts to 125,000 francs, and its influence in the improvements of edifices, &c. is very considerable. The professor of sculpture is the celebrated Tolsa, who has produced an equestrian statue of Charles IV. in bronze, a work of classical purity. Humb. 119.



fury, 1000 from the city of Mexico, 5000 from the tribunal of mines, 200 from Vera Cruz, 200 from Guanajuato, &c. and 4000, as the interest of 80,000 of principal; so that the whole revenue is 26,580 *pesos*, while the salaries, pensions, and rewards amount to 25,043. Architects, sculptors, painters, and surveyors, are regarded as responsible to this academy.

There are also particular houses in Mexico where Latin grammar is taught by preceptors approved by the government and university, though in fact of small skill and reputation, so that the colleges are generally preferred. "In the primary schools for children, I have observed with pleasure considerable improvements. Some masters have adopted the excellent method established in the royal schools of Madrid, and in that of the royal committee, abandoning the barbarous routine of the old schoolmasters. The public examinations held in Mexico evince the superiority of the new method."

The royal garden of botany in New Spain is regarded by our author as a medical institution to discover the virtue of plants. A new course is held every year, frequented not only by students of medicine, but by other curious persons; yet the botanic garden, in 1799, was of small account, and only regarded as provisional\*. And though there are professors of medicine and surgery in the royal university, yet they are merely theoretic, and employed in discussing whether medicine be an art or a science, and other questions of large leaves, many prickles, and small fruit. Some little idea of practice is acquired in the hospitals; but when one of the faculty projected a chair of practical medicine, death got angry, and laid violent hands upon him.

From the preceding account, carefully extracted from a recent and intelligent Spanish author, it may be observed that the chief object, the diffusion of a good and solid education, would still appear a novelty. The improvements in the primary schools afford consolatory ideas; but the chief object should be to increase their number, to educate and prepare proper masters, and to assign permanent salaries, to be derived from a portion of the immense possessions of the church, which would be far more laudably employed in teaching virtue and science, than in maintaining ignorance and luxury.

CITIES.—MEXICO.] The chief city of New Spain, and all Spanish America, is Mexico, celebrated for the singularity of its situation. In a beautiful vale, surrounded by mountains, the lake of Tezcucó is joined on the south to that of Chalco by a strait, on the west side of a tongue of land, the whole circuit of these lakes being about 90 miles. In a small isle to the north of this junction, and upon the west side of the lake of Tezcucó, rose the old city of Mexico, accessible by several causes raised in the shallow waters, but on the east side there was no communication except by canoes. It is said by Robertson, from recent Spanish documents, to contain 150,000 inhabitants; of which probably a third part is Spanish. A recent account of this remarkable city is given by Chappe D'Auteroche†, who visited it in 1769, and informs us that it is built upon a fen, near the banks of a lake, and crossed by numerous canals, the houses being all founded on piles. Hence it would

\* There were, however, in 1798, 3000 plants, of which half were unknown in Europe; there was also a great collection of quadrupeds, birds, &c. Estalla, xxvii. 194.

† Voyage to California, 1778, vvo. This short but curious work seems to have escaped Dr. Robertson. A plan of Mexico is inserted, but injudiciously not extended to the lake. The account of Mexico by Pagés seems only to evince that his work is a fabrication.

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† D'Auteroche, p. 40

seem that the waters of the lake have diminished, so as to leave a fenny access on the west \*. The ground still yields in many places; and some buildings, as the cathedral, have sunk six feet. The streets are wide and straight, but very dirty; and the houses, resembling those in Spain, are tolerably built. The chief edifice is the viceroy's palace, which stands near the cathedral in a central square, but is rather solid than elegant. Behind the palace is the mint, in which more than 100 workmen are employed, as the owners of the mines here exchange their bullion for coin. The other chief buildings are the churches, chapels, and convents, which are very numerous, and richly ornamented. The outside of the cathedral is unfinished, as they doubt the foundations; but the rail round the high altar is of solid silver, and there is a silver lamp so capacious that three men get in to clean it; while it is also enriched with lions' heads, and other ornaments, in pure gold. The images of the virgin, and other saints, are either solid silver, or covered with gold and precious stones. Besides the great central square there are two others, each with a fountain in the middle. "To the north of the town, near the suburbs, is the public walk, or *Alameda*. A rivulet runs all round it, and forms a pretty large square, with a basin and *jet d'eau* in the middle. Eight walks, with each two rows of trees, terminate at this basin, like a star, but as the soil of Mexico is unfit for trees, they are not in a very thriving condition. This is the only walk in or near to Mexico; all the country about it, is swampy ground, and full of canals. A few paces off, and facing the *Alameda*, is the *Quemadero*; this is the place where they burn the Jews, and other unhappy victims of the awful tribunal of inquisition. This *Quemadero* is an enclosure between four walls, and filled with ovens, into which are thrown over the walls the poor wretches who are condemned to be burnt alive; condemned by judges professing a religion whose first precept is charity †." The Spanish inhabitants are commonly clothed in silk, their hats being adorned with belts of gold and roses of diamonds; for even the slaves have bracelets and necklaces of gold, silver, pearls, and gems. The ladies are of distinguished gallantry. Mexico, though inland, is the seat of vast commerce between Vera Cruz on the east, and Acapulco on the south; and the shops display a profusion of gold, silver, and jewels. In magnificent regularity it yields to few cities even on the ancient continent. Gage, whose authority was used by the most recent writers in the defect of other materials, says that in his time, 1640, there were supposed to be 15,000 coaches, some of them adorned with gold and gems; the people being so rich, that it was supposed that one-half of the families kept equipages ‡.

To the preceding brief description of this celebrated capital may now be joined a selection of recent circumstances, from the work of Estalla, published in 1799; and as, in the whole of this description of New Spain, details of considerable length have been given, not only because all former descriptions were so antiquated and defective, that this region

\* This probably happened after 1629, when there was a remarkable inundation, and a wide canal was led through a mountain to drain the lakes. The large lake is saline, the bottom being nitrous; but that of Chalco rather sweet. Certain it is that the site of the city is the same with the ancient, the viceroy residing on the spot of Motezuma's palace, in a large mansion built by Cortez, and still rented at 4000 ducats from the Marquises del Valle his descendants. La Croix, ii. 381. But compare Careri, who has given from the original papers a curious detail concerning the procedure in draining the lakes.

† D'Aueteroche, p. 44.

‡ Survey of the West Indies, 1653, fol. p. 56.

had become the very reproach of geography, but because the country itself is in many respects one of the most singular and interesting on the face of the globe, so this account of the metropolis of America shall be more than usually ample and minute.

The air of Mexico is very subtle, and dangerous when confined in narrow passages; hence the lake does not produce such humidity as might be conceived, and the bodies of dead animals remain long unconsumed. The lake, as already seen, has retired a Spanish league from the city; and some think that this circumstance renders the air less healthy, for too dry a climate may produce accidents and sudden deaths. There are however many water-courses, covered and open, but they are cleansed only once in two years. The winter frost is gentle, and is thought severe when the ice exceeds the thickness of paper. The summer heats are tempered by the regular showers which fall in the evenings. Betwixt twelve and one o'clock, during the rainy season, the clouds begin to rise from the lakes; and betwixt two and three descend in violent showers, of which an European can hardly form an idea, except by comparing the noise and rapidity to a storm of large hail. The rain continues two hours, more or less; and is sometimes accompanied with lightning, not without accidents. Sometimes there are water-spouts, which however have never been known to have fallen on the city, but always on the lake. They however sometimes ruin mining stations; and our author says that they have been known even to level hills. Though just within the tropic of cancer, the yearly cold at Mexico appears, from thermometrical observations, to exceed the heat. The rainy season extends from the middle of May to the middle of September; during which, as has been mentioned, it rains every evening: if it failed, the harvest would be lost, and there would be many diseases, which have sometimes degenerated into the contagious form.

The plain of Mexico is about sixty leagues in circumference, and enclosed on all sides by mountains, covered with cedars, many rare shrubs, and medicinal plants; while they contain minerals and precious stones. These mountains are studded with romantic villages and farms, watered with crystal rivulets. Near the middle of this delicious plain are the lakes Tezcucoc and Chalco. Estalla informs us that the waters, not many years ago, reached to the city; but he adds, that Don Domingo de Trespalacios, uncle of his friend, who gave him the most recent intelligence concerning New Spain, had constructed a dyke on the side of San Lazaro, that the city might not be inundated; and which still exists, though of no utility, because the lake had retired nearly a Spanish league, or four English miles\*. The capital, by his account, remains in the same position as when founded in the christian year 1327†. And since the year 1712 there have been no augmentations, though the churches and houses have been beautified, the increased number of inhabitants being accommodated by the greater height of the houses, and the more splendid part of the capital being reduced to narrower bounds. The streets are well opened, proceeding in right lines from east to west and from north to south; and though the soil is marshy, the foundations are rendered firm by art and industry. It is incredible how much this grand capital has been decorated and improved very lately, both in its interior and environs, great cleanliness and a good police having been at the same time established, so as to have become the largest, most beautiful, and sumptuous of all the Spanish monarchy. The cathedral church

\* Estalla, xvii, 78.

† Ibid. xvi. 255.

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is a magnificent edifice, the erection having occupied 94 years; there are two images of the virgin; one of gold which weighs 6984 *castellanos*\*, and is adorned with precious stones; the other of silver, weighing 83 marks, or about fifty-five pounds. The service is performed with singular pomp and splendour†. Though the parishes do not exceed 14, there are more than 100 other churches, mostly neat and richly decorated. The religious houses are surprisingly numerous, and the nunneries amount to twenty, one of them having been the residence of the celebrated Mexican poetess, Juana Inés de la Cruz.

Among the numerous courts of justice and officers here established, are the royal audience and chancery of New Spain, whose jurisdiction extends on the north from the cape of Honduras to Florida, and on the south from the audience of Guatemala to that of Guadalajara; the court for strangers, and those who die intestate; the royal tribunal of registers; the royal coffers or general treasury; the royal mint, and many others: not to speak of the tribunal of the inquisition; the house of the missions of California; the mount of piety, erected by the charity of the Count de Rega, who gave no less than 315,000 pesos; the royal tribunal of mines; that of the estate and marquisate of Valle, or the descendants of Cortez; the illustrious chapter, justice, and government of the most noble and imperial city itself, to which the ancient arms were confirmed by Charles V., being a castle with three towers, an eagle on a tree with a snake in its beak; at the foot of the tree is the lake; the whole surmounted with an imperial crown, and supported by two lions. Philip V. granted to Mexico, in 1728, all the privileges and distinctions of a grandee of Spain; and Charles III., in 1773, indulged the *chapter*, or magistrates, with the use of uniforms laced with gold, declaring their precedence over all tribunals and bodies, except the royal audience and the tribunal of accounts. The patroness of the city is St. Mary of Guadalupe, solemnly chosen in 1737, and whose worship has extended over all Spanish America.

The natives have considerable dispositions for the arts, and in painting they boast of Cabrera, Enriquez, Vallejo, Palaez, and Don Juan Patricio. Their general character is that of a liberal, courteous, affable, and charitable people. The universities and colleges have educated many archbishops and bishops, viceroys, ambassadors, and magistrates; but not one author of any distinction, though this be an object of far greater glory, and might have diffused its reputation over both hemispheres.

There are thirteen hospitals, and other charitable establishments; a house of refuge for married women: that of the Magdalen for abandoned females; a foundling hospital; a general hospital for the sick, poor and beggars. There are also several houses for female orphans, who are fed at a good table, and receive 100 dollars a year, and 500 when they are able to establish themselves. Other girls drawing lots at the cathedral, receive certain perquisites; and sometimes, when they wish to marry, already possess from six to eight thousand dollars.

The mount of piety has already been mentioned; and this useful institution in favour of the poor, who are in many countries devoured by the infamous usury of the pawn-brokers, ought to be an object of universal imitation. There is a general hospital for the Indians, of

\* A *castellano* is the fiftieth part of a mark, while a mark is two-thirds of a pound, or eight ounces.

† The beggars of the city of Mexico, are computed at 60,000. *File.* A shocking contrast!





a league, or three English miles; and though the houses extend to Tacuba, there is only one street from San Hipolito\*.

At the distance of two Spanish leagues, at the place called Mexicaltzingo, begins the other great lake, that of Chalco, about five leagues in length from north to south, and about as much from east to west, affording ample space for the crowded traffic of canoes, which bring all the products of its circumference. In the midst, beside the royal canal, are seen various villages, among which is that of Ixtacalco, with a Franciscan convent, much frequented by the citizens after Easter.

To pursue the somewhat desultory description of our author, the city of Mexico is not surrounded with walls or other defence; there is only a trench, or ditch, serving as a barrier to collect the duties and prevent smuggling. The chief gates are that of Guadalupe, on the road to that sanctuary, and those of Los Angeles, Tlalapa, Chapultepec, San Anton and San Lazaro. All the *pulque* enters by the gate of Guadalupe, and this general drink of the Indians and of the poor now yields about a million of dollars to the king. When a new cargo enters, this joyous occasion is celebrated with banners, music, and incredible uproar. The streets, generally reaching from one extremity to the other of the city, are now well paved, but are so even, that during rain it becomes necessary to be carried on the shoulders of the Indians from one foot path to the other. In the midst of the great square is a fountain, with a horse of bronze; the palace of the viceroy has a considerable garden, where he sometimes erects a tent, assumes a country dress, and dispatches business; but in general the viceroys, having no country-house, pass the warm season at that of the archbishop, in Tacubaya.

Even the manufactory of cigars, in which more than five thousand persons are employed, is a modern and magnificent edifice. The tribunal of *la Acordada* was one of the most terrible in the viceroyalty; the judge, who is called captain of the holy brotherhood, being also inspector of prohibited liquors. Nor was there any appeal till it was ordered in our time, by Charles III., that the viceroy, with two or three judges, should revise the sentences. The judge of the *Acordada* has from eight to ten thousand men throughout the viceroyalty, under the names of lieutenants, corporals, and troopers, many being desirous to enlist on account of the privileges. The judge is a lay brother, but has assessors. The holy brotherhood was established in imitation of that of Spain, known to every reader of Don Quixote, on account of the many robberies and murders which were formerly committed; and this vigilant police maintains the public tranquillity of the city and of the viceroyalty, speedily chastising every excess, and performing their rounds day and night. Capital criminals are hanged in a field, called Exido de Concha, from the name of the captain of this brotherhood; and the tribunal has become more useful, since the viceroy obtained the privilege of reviewing sentences of death.

\* Humboldt estimates the population of the city of Mexico in the following manner:

|        |                                          |
|--------|------------------------------------------|
| 2,500  | European whites.                         |
| 65,000 | (real whites.                            |
| 83,000 | Natives, (copper coloured Indians.)      |
| 26,500 | Mestizos, mixture of whites and Indians. |
| 10,000 | Mulattos.                                |

137,000 Inhabitants.

The consumption of wine is very much increased since 1791, especially since the Brunonian system of medicine has been adopted by the Mexican physicians, who had observed the bad effects of debilitating medicines, p. 196. 199.



The *baratillo*, or market for trifling and second-hand commodities, is a square of shops conceived and executed by Don Domingo de Trespalacios, when he was superintendent of the city, an office not defcribed. The *colises*, or theatre, is small but handsome; the actors, commonly from Spain, are not the best, but superior to any native performers. Smocking is permitted, except when the viceroy or his lady is present; the women, who smock like the men, diverting themselves with throwing the ends of cigars at the opposite boxes. The spectators are sometimes enthusiastic in favour of certain actresses: not many years ago, in a fit of this kind, while an European actress was repeating a favourite passage, *onzas* of gold were thrown upon the stage, to the amount of three thousand dollars, or about seven hundred English guineas; a proof of Mexican wealth; or rather extravagance\*.

Mexico has imitated Madrid in the recent example of great cleanliness. Not long ago this city was not lighted, nor the streets, nor even the foot paths paved. All this is now executed with such neatness and propriety, that, according to our author, Mexico may rival any European capital. Sewers and water-courses are opened in the greater part of the streets, which are well paved; the foot paths being raised above the streets, to carry off the water. The market places are also cleansed, and there are many scavengers and carts to carry off the filth. The taste of the Mexicans is also improved in their carriages and liveries, which were formerly heavy, rude, and grotesque; coachmen being sometimes seen with only one boot, and the other leg even naked, while the coaches had curtains on each side instead of doors. At present they are more neat and convenient, and some equipages are even brought from England, though at an immense expence. Yet the population is laudably not consumed in laquies and domestics; and a white coachman would be a wonder, all the servants being mulattoes, or other mingled breeds. But the fashion of riding is universal, and the number of horses prodigious.

Mexico presents several beautiful public walks, a rarity in the cities of Spanish America, where many have failed, as Thierry observes, from the trees having been planted; while the climate and seasons demand that they should have been raised from seed sown on the spot. The *alameda* is however hardly to be rivalled by any city of Spain, being an oblong square, inclosed with a neat railing of wood painted green, while in the middle there is a large fountain, and others on the sides. The foot passengers enter by four doors in the angles, and the coaches going to the promenade of Bucareli (a celebrated viceroy 1772—1779) pass on one side, but may also make a tour within. This promenade of Bucareli extends from the arches of Chapultepec to the prison of the *Acordada*, there being in the middle a spacious square with a fountain; but the coaches can only pass round, as a return on the same road is not permitted. It is very little frequented by foot passengers. The mall of Itacalco, called also the *Viga*, made by the Count de Galvez, is one of the most pleasing, as it runs by the side of the canal which goes to that place, and conveys many canoes laden with eatables, tiles, lime, &c. for the city, the rowers being often crowned with roses, but the nearest part is now filled up†. The promenade of Guadalupe was begun by the Count's father, who was also viceroy. There is also a causeway from

\* The theatre has however greatly declined since it has been governed by a society, the dancing being the best part of the exhibition.

† Estalla, xviii. 245.

Mexico to Guadalupe, because the water is intruded by brick; one other by the arch name. There is rich order it from Humboldt\*.

formed to deliver northern lakes, and that of Tezcucoc which first represent a precise idea could being singularly small map which into the river Tula river. This canal the gallery of Nahuas at length laid water were thirty nearly five leagues of hills of Nochistlan times exceeding river, were it not in width. Still, answered, the level by English engineer years. The river nation of the canal they flow into the

Mexico, by his world, whether we and squares, or the sometimes beautiful deur, is the confusion America, which Philadelphia, or other cities. Having thus, it capital, whose recent be closed with some tains, as already majestic trees, and with tains, as in the valleys the fruits of European fields present numerous increase the fertility ducts of the garden poultry, quails, and capital; nor are the

\* P. 204. and seq.

† The great inundation twenty-five years.

‡ The two stones chiefly and a porphyry with glass porphyry.

Mexico to Guadalupe, made by orders of Don Domingo de Trespalacios, because the road was hardly passable in the rainy season.

Water is introduced into Mexico by two aqueducts, neatly constructed of brick; one by the Trespana, the water coming from Santa Fé; the other by the arches of Chapultepec, coming from a village of the same name. There is however no great abundance of good water; and the rich order it from various places in the neighbourhood.

Humboldt\* gives a very prolix account of the progress of the canal, formed to deliver the capital from inundations, by evacuating the northern lakes, and thus preventing them from pouring their waters into that of Tezcucó. Till the publication of the map of Alzate 1768, which first represented the course of the river Tula, or Motezuma, no precise idea could be formed on the subject, the geography of Danville being singularly erroneous. Gemelli Careri had indeed published a small map which seems unknown to Humboldt, and presents the opening into the river Tula, but does not indicate the subsequent course of that river. This canal was begun in 1607, in the form of a tunnel, called the gallery of Nochistongo; but being subject to many inconveniences, was at length laid open in the form of an enormous canal, which if the water were thirty feet deep might admit ships of the line. Its length is nearly five leagues, or fifteen miles, and the depth in cutting the chain of hills of Nochistongo is from fifty to sixty yards; the width sometimes exceeding 100, and presenting the appearance of an important river, were it not that the stream in the dry season is not above four yards in width. Still, after two centuries, the intention is not perfectly answered, the level being too high for the lake of Tezcucó; and a modern English engineer would have accomplished a far superior work in two years. The river Tula has a remarkable *salto* or cataract at the termination of the canal, and conducts the waters into that of Panuco, whence they flow into the gulf of Mexico†.

Mexico, by his account, is one of the most beautiful cities in the world, whether we consider the openness and regularity of the streets and squares, or the style of architecture, which is generally pure and sometimes beautiful. There is also a singularity, an air of exotic grandeur, in the construction, situation, and scenery of this metropolis of America, which excites ideas not to be found in Petersburg, Philadelphia, or other cities reared with modern regularity‡.

Having thus, it is hoped, given a sufficiently ample description of this capital, whose recent state was little known in geography, the whole shall be closed with some account of the environs. The surrounding mountains, as already mentioned, are crowned with cedars, and other majestic trees, and with many rare and beautiful shrubs. On the mountains, as in the valley, there are handsome villages, villas and farms; and the fruits of Europe are mingled with those of the country. Verdant fields present numerous herds of cattle, while the rivers and lakes increase the fertility; so that the most exquisite fruits, and other products of the garden, abound through the whole year. Turkeys, geese, poultry, quails, and many kinds of fish, contribute to the food of the capital; nor are there wanting birds of exquisite song or beautiful plu-

\* P. 204. and seq.

† The great inundations of the lake of Mexico occur at intervals, from sixteen to twenty-five years.

‡ The two stones chiefly used in building are what Humboldt calls a porous amygdalite, and a porphyry with glassy felspar, but void of quartz; as if quartz were a constituent of porphyry.

mage. Agriculture boasts of flax, hemp, cotton, tobacco, indigo, sugar, and magueys. The eastern shore of the lake, as already mentioned, alone presents the aspect of sterility, on account of the salt vapours from the lake.\*

All the moisture supplied by the chain which surrounds the valley of Mexico, is there united, and no stream issues from it except the rivulet *Aroyo*, of Tequiquiac, which in a narrow ravine traverses the northern chain of mountains, to throw itself into the river Tula, or Motezuma, which rises on the opposite side of the chain †.

Among the chief resorts of the citizens may be named San Angel and San Augustin de las Cuevas, the last in particular being equal to the most delicious spot in Spain. The most celebrated sanctuary is that of our lady of Guadalupe, the history of which miraculous image is printed for the use of the devout. There is a college, with an abbot, canons, and prebendaries; the church being a regular building, with a nave and two aisles; the grating of the choir is of massy silver, and the other decorations of corresponding opulence. In the neighbourhood is a well which yields petroleum. Another sanctuary, or pilgrimage, is that of our lady de los Remedios, on the spot where Cortez retired when he was repulsed from Mexico, on what is called the *noche triste*, or melancholy night. Water was brought to the sanctuary by Trespalacios, a general benefactor, who constructed many bridges in the neighbourhood of the capital, appeased two tumults of Indians, and was a liberal donor to the hospitals. He first undertook the work of the drains, completed in 1797 by his nephew, dean of the royal audience; so that at present, at the expence of some millions, the lake, as already mentioned, is confined to the distance of a Spanish league from the capital, which it can no longer inundate. Without the barrier of Santiago is the sanctuary of our lady of the Angels, formerly the residence of a hermit.\* Near that barrier is seen a picture, representing a pious law of Cortez, that the dilatory Indians should be whipped to the mass; an inconsistency worthy of his period and country †.

At the distance of five leagues to the south-west from Mexico is the desert of the Carmelites, in an inclosure of about a league in circuit, the retreat of the more austere monks there being in solitary cells, as in the desert of Batuecas, in Spain. From one of the heights is discovered all the valley of Toluca, nay the whole plain of Mexico, sixty Spanish leagues ‡ in circumference. This desert abounds with various trees, of which the wood is much esteemed; wild rocks and flowery shrubs ¶.

The aqueduct of Chapultepec adorns the immediate environs; and on the hill so called was a palace of Motezuma. *Trafpana* is another place of resort, where there are several good houses; and many settle there, as the air is esteemed very healthy. On the side of San Lazaro, about half a league from Mexico, is the Rock of the Baths, which are warm, but the quality is not ascertained.

There are many other flourishing cities in this wide empire. In a commercial point of view the most interesting are Vera Cruz and Acapulco, the two chief ports; the first on the Atlantic, the second on the Pacific ocean. M. Thiery passed a considerable time at Vera Cruz in 1777, and describes it as situated in a sandy and barren plain, with infectious

\* Estalla, xvi. 255.

† Humb. 204.

‡ Estalla, xvi. 329.

§ The old accounts estimate the circumference of the valley of Mexico at ninety leagues, while it is in fact only sixty-seven, even reckoning by the crest of the mountains, which surround it like a circular wall. Humb. 164.

¶ Estalla, xvii. 70. See also Gage, who gives an enchanting description of this spot.

marshes

marshes on the south, with a simple wall, by a wooden palisade, feeble bastions, and to the S. E. and the port, which is in stone and lime, less travellers to the rough stone used is brought from or entailed estate streets are wide, The churches abound chief luxury consumed at Xalapa. the inhabitants are is well understood lion of dollars. the only amusement masquerades, the A charity of six thousand passed to the rich. fathom, is an islet, is tolerably fortified part being the southern forty to sixty ships from four to ten fast drive vessels on shore are haunted by caymans but innocent. This sometimes to darkness It need scarcely be in the gulf of Mexico vince of Santander informs us, that the caused from going to stand †. In the rain at Mexico it is in the teaching grammar America. Earthquake of the governor. is full of caymans, fond of the flesh of the caymans hasten swim across, knowing the current. A great Mexico at the expense The other grand mart of the trade is call that with Chinese merchants at Mexico

\* Thiery, ii. 1.

marshes on the south\*. It fronts the sea in a semicircle, and is inclosed with a simple wall or parapet, six feet high and three broad, surmounted by a wooden palisade in great decay. This wall is flanked with six feeble bastions, or square towers, twelve feet in height. On the shore to the S. E. and N. W. are two redoubts, with some cannon to defend the port, which is bad and intricate. The houses are of good masonry in stone and lime, with wooden balconies, which have induced some careless travellers to report that the houses themselves are of wood. The rough stone used consists of petrified madrepores; but a good free-stone is brought from Campechy. Many houses belonging to *mayorazgos*, or entailed estates, have fallen down from the want of repairs. The streets are wide, well paved with pebbles, and kept in excellent order. The churches abound in decorations of silver, while in the houses the chief luxury consists of porcelain and other Chinese articles. The principal inhabitants are merchants, but European commerce is chiefly conducted at Xalapa. The population is about seven or eight thousand; the inhabitants are generally proud, indolent, and devout; but commerce is well understood, and there are seven or eight houses each worth a million of dollars. The women are rarely handsome, and live very retired, the only amusements being a coffee house, and processions, or religious masquerades, the penitents whipping themselves with much bloodshed. A charity of six thousand dollars to marry four poor girls has, as usual, passed to the rich. Opposite Vera Cruz, at the distance of four hundred fathom, is an islet, on which stands the castle of St. John d'Ulloa, which is tolerably fortified with three hundred pieces of cannon, the weakest part being the south-east; signals are made from a high tower. From forty to sixty ships of war, or a hundred merchantmen, might anchor from four to ten fathom; but the northerly winds are terrible, and often drive vessels on shore. In the rainy season the marshes on the south are haunted by caymans, or alligators, from seven to eight feet in length, but innocent. The sea-fowl and other birds are innumerable, and seem sometimes to darken the air; and the musquitos are very troublesome. It need scarcely be added that Vera Cruz is regarded as the only haven in the gulf of Mexico; but one has been recently discovered in the province of Santander, and that of Campechy is not contemptible. Estalla informs us, that the north winds are so furious, that the ladies are excused from going to mass; and these gales sometimes load the walls with sand†. In the rainy season the water regularly falls in the night; while at Mexico it is in the afternoon. Some religious women are occupied in teaching grammar to the parrots of Alvarado, reputed the best of all America. Earthquakes are frequent; and one in 1780 shook the house of the governor. Old Vera Cruz is an unhealthy situation, and the river is full of caymans, so strong as to draw an ox under water. They are fond of the flesh of dogs; but these sagacious animals bark aloud, and the caymans hasten to the spot; they then speedily ascend the river, and swim across, knowing that their enemies can with difficulty swim against the current. A grand causey is now forming between Vera Cruz and Mexico at the expense of the merchants of Vera Cruz‡.

The other grand port of the Mexican empire is Acapulco, the chief mart of the trade with the Philippines, which the Spanish writers often call that with China. When the galleon or Chinese ship arrives, the merchants at Mexico hasten to receive their commodities; but at other

\* Thierry, ii. 1.

† Estalla, xvii. 28.

‡ Humb. 37.

times the town is little frequented or peopled, being in a hot and wet climate, and the S. E. winds in the rainy season are singularly destructive, while the salutary north winds of the eastern shore are totally unknown; hence Acapulco is scarcely inhabited by any Spanish families, while there are about four hundred families of Chinese, that is, people from the Philippines, mulattoes and negroes\*. Acapulco stands under a chain of granitic mountains, which, by the reverberation of the heat, increase the extreme unhealthiness of the situation†. Even provisions are scarce; and the city depends on a supply from the Indians. At the distance of a musquet shot stands, on a promontory, the castle of San Diego, with thirty-one pieces of cannon, the greater part twenty-four pounders, to defend the haven, which is safe, and so spacious as to contain five hundred ships, the chief entrance being on the south. The governor has the title of lieutenant-general of the coast of the South Sea; and there are three companies of militia, the Chinese, the Mulatto, and the Negro. The district produces cotton, maize, pot herbs, and fruits, with some tobacco; nor is there a deficiency of cattle or sheep.

Such are the two chief ports of New Spain; and before passing to the other principal towns, it may not be improper briefly to consider those in the central and more celebrated provinces of Tlascala, Mexico‡, and Mechoacan.

Puebla de los Angeles is regarded as the most populous city after Mexico, the number of souls being not less than sixty thousand, while Queretaro, the next, falls to forty-six thousand. Puebla is in a warm and dry climate, and one of the most beautiful cities in America, the churches being sumptuous, the streets broad and regular, with large squares and handsome houses§. It is unnecessary to add that there are many convents, and twelve nunneries. There are also two colleges, and a charity school for girls. The last enumeration bore fifteen thousand families of Spaniards, Creols, and Mulattoes, with three thousand two hundred of Mexican Indians; but a considerable increase has lately taken place in this and other parts of the viceroyalty. There are several manufactories of soap, cotton cloths, fine earthen ware, and many kinds of iron work, particularly swords, bayonets, &c. celebrated for their temper and beauty. The soap is noted even in Spain, the wash-balls being in imitation of many animals and fruits of the country. In the market much cotton is sold by the Indians, the buyers weighing it and pronouncing the price: but the seller repeats the process till he finds he can get no more, when he returns and sells it to the first. The sagacity of the Indians was here evidenced: a Spaniard having stolen a horse, was brought before the judge by the Indian owner, who having no proof in his favour, suddenly threw his cloak over the head of the animal, and asked the Spaniard of which eye he was blind. The robber, taken by surprise, and not to shew a short acquaintance with the horse, answered, of the right eye; but the Indian answered, "of neither;" which being found to be the fact, his horse was restored. The ancient town of Tlascala still enjoys many of its former privileges, though reduced to about five hundred families, chiefly employed in weaving cotton. In the neigh-

\* Estalla, xvi. 302.

† Humb 212.

‡ Toluca and Lerma are reckoned among the cities of the archbishopric; and Texcoco and Xochimilco are cities of the Indians. Estalla, xxvi. 252. who adds, that the chief seaports are Acapulco and Panuco; Vera Cruz being in the bishopric of Puebla. But the port of Panuco is impeded by a bank of sand.

§ Estalla, xxvii. 44.

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Cordova is a town which there are about sixty families and sixty families or descendants of groves, and two describes Cordova steeples, and a sides, the cathed in the middle: mostly of stone; much for man h natural passage extremely rich a in depth, produ tance of seven S town of Orizava of a square leag six hundred shee length, and five streets; though streets, while the sand whites, and neries and some mules repose, and It is in a vale, su the most verdant cano of Orizava, melites is of bar great quantity of Cruz and Mexico east of the capita and only one min

Xalapa is ano royalty, formerly fleets from Europ it remains a confi the southern skirt clay, and in parts fertilize the coun Spanish families, a and sixty-one Ind always rains at There is a regular the capital; but The purging pow which the town g Not to mention

\* The celebrated h Tlascala as a mountaine communicated with the in the time of Cortez powder. Charles V. re † Estalla, xxvii. 43.

bourhood



bourhood is the plain of Otumba, celebrated for a victory of Cortez, whose allies were the people of Tlascala and the Otomite Indians\*.

Cordova is a considerable town, the chief trade being in sugar, of which there are thirty-three mills. Estalla says there are two hundred and sixty families of Spaniards, one hundred and twenty-six of *mestizos*, or descendants of Spaniards and Indians, sixty of mulattoes and negroes, and two hundred and seventy-three of Mexican Indians†. Thiery describes Cordova as a large town, with numerous domes, towers, and steeples, and a large square in the centre, with Gothic arcades on three sides, the cathedral filling the fourth, and a fountain of delicious water in the middle: the streets are wide, straight, and paved, and the houses mostly of stone; but the inhabitants are indolent, for where nature does much for man he does nothing for her‡. The situation is in a kind of natural passage towards the province of Mexico; the vegetation being extremely rich and beautiful, on a soil of red clay, from ten to fifteen feet in depth, producing all the fruits of the two hemispheres. At the distance of seven Spanish leagues, or twenty-eight English miles, stands the town of Orizava, in a country of such rich pasturage, that in the space of a square league our traveller counted eleven flocks, each of more than six hundred sheep§. The town is about fifteen hundred fathoms in length, and five hundred in breadth, with well paved streets; though such is the power of vegetation, that grass springs in the streets, while the waters are as pure as crystal. Population, three thousand whites, and fifteen hundred Indians and negroes; there being tanneries and some manufactories of coarse cloth. Here the caravans and mules repose, and the value of inland and European articles is estimated. It is in a vale, surrounded with detached mountains, overshadowed with the most verdant forests; above which proudly rises on the west the volcano of Orizava, covered with perpetual snow. The house of the Carmelites is of barbaric magnificence. The neighbourhood produces a great quantity of tobacco. Orizava is on the high road between Vera Cruz and Mexico, being, according to Alcedo, forty-six leagues to the east of the capital, while he estimates Vera Cruz at eighty-four leagues, and only one minute of latitude further to the south.

Xalapa is another considerable town in this fertile part of the viceroyalty, formerly famous for the fair held on the arrival of the stated fleets from Europe; and even since the commerce has been declared free, it remains a considerable mart for European commodities. It stands on the southern skirts of a mountain, in a beautiful climate, the soil being clay, and in parts stoney, while pure waters issue from a white sand, and fertilize the country. The population is two hundred and forty-three Spanish families, a hundred and eighty-two *mestizos*, and three hundred and sixty-one Indians. When north winds prevail at Vera Cruz, it always rains at Xalapa; but the climate is esteemed very healthy. There is a regular inn, and a still better at Perote, a day's journey nearer the capital; but the new road passes by Cordova, Orizava, and Puebla. The purging powder of the country is made of the root of a plant to which the town gives the name of jalap.

Not to mention Pachuca, eighteen leagues on the north-east of Mexico,

\* The celebrated historian Solis, whose facts however are not always exact, describes Tlascala as a mountainous province, at the beginning of the grand ridge, by which they communicated with the Otomites their allies. The volcano of Popocatepec, on its eruption in the time of Cortez, was explored by Ordaz; and the sulphur was used to make gunpowder. Charles V. rewarded Ordaz, and gave him for arms a volcano. Estalla, xvii. 39.

† Estalla, xvii. 40.

‡ Thiery, ii. 68.

§ Thiery, ii. 71.

formerly



formerly famous for its mines, now inundated, nor Mexitlan, forty leagues to the E. N. E. near the Sierra Madre, or mother chain of mountains, the city of Queretaro, on the N. W. deserves notice. It is seated in the country of the Otomite Indians, who were conquered by the Spaniards in 1531\*. Queretaro is said to be one of the most beautiful and opulent cities of the viceroyalty, and the most extensive after Mexico; the situation being in a delicious vale, watered by a river, which is divided into numerous channels, and conveyed into two thousand gardens, producing all the fruits and flowers of Europe and America. From three grand squares proceed numerous streets towards the four cardinal points of the compass; and there is a celebrated aqueduct, supported by more than forty arches, of the height of thirty-five yards, which cost one hundred and fourteen thousand dollars. The aqueducts in general are the most beautiful objects of architecture in New Spain. The parochial church is magnificent, and the curacy one of the richest in the viceroyalty. Another church is so sumptuously adorned, that the altar is of massy silver. There are three thousand families of Spaniards, mestizos, and mulattoes, and about as many of Otomite Indians; so that the population is computed at forty-seven thousand souls, among which are many rich and noble families. The manufactures are fine cloths, woollen stuffs, coarse linens; and the shops are very numerous, nor are the tanneries without reputation. This charming city is forty-two leagues distant from Mexico.

Puebla and Queretaro may thus be regarded as the two chief cities after Mexico; and they are succeeded by Guadalajara and Guatemala, seats of two royal audiences. Guadalajara is more extensive than populous, containing from eight to nine thousand families of Spaniards, mestizos, and mulattoes; nor can the Indians be included, as they live in farms and villages. There are eight squares, many convents as usual, and two colleges for education. The Royal Audience was established in 1548. Guadalajara stands on the river Barnaja, or Esquitlan, which flows from the lake of Mechoacan, and runs rapidly to the north-west; there being a great cataract at the distance of four leagues. The plain of Guadalajara is likewise watered with many rivulets, and surrounded with hills, overshadowed with pines and oaks. The city boasts of excellent artizans, and the people are generally fair and well formed, and celebrated for industry and honesty. There is here also a handsome aqueduct, and numerous gardens replenished with excellent fruits. According to the memoirs of Trespalacios, used by Estalla, the daughters of black and white parents are here entirely white, not mulattoes, as in the other provinces. The streets are unpaved, and the carriages drawn by unshod mules, fed with maize, which costs four reals the bushel. There are frequent tempests, but it never snows; and when, by way of phenomenon, a shower fell, the inhabitants imagined that the end of the world was come; and the like superstition was shewn at Mexico a few years ago, on the appearance of an aurora borealis.

The population of Guanajuato is computed at 41,000, but the rich surrounding mines have attracted nearly 30,000 inhabitants to the neighbourhood†.

Guatemala, the seat of the third Royal Audience, was founded by the name of St. Jago, at the side of a volcano, and was totally ruined by an earthquake, 1775, but has been rebuilt at some distance. Of the new city the accounts are very imperfect, though a gazette is there published,

\* Estalla, xxvii. 107. who frequently copies Alcedo.

† Humb. 247.

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23 geographical miles far  
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† Humb. 200.

which contains curious articles on antiquities and natural history\*. The president of the kingdom of Guatemala, which contains many ample provinces, as above explained, is commander in chief, but subordinate to the viceroy of Mexico. The royal audience, or high court of justice, was established in 1544, and in 1742 this city became an archiepiscopal see. It is probable that the churches and convents have not been forgotten; and there is an university which begins to adopt the useful plans of education. The inhabitants are celebrated for personal beauty, and sweetness of disposition, the women being reputed the handsomest in Spanish America, probably owing to the moisture of the climate. The number of inhabitants has not been ascertained, nor even mentioned by any writer, but is probably equal, if not superior, to that of Guadalaxara.

Such are some of the principal cities of this extensive empire, but there are a few others remarkable as capitals of provinces, or from their positions, which it may be proper briefly to describe, in order to present a more complete idea of a country so little known to the European reader. A short progress shall therefore be made from the southern to the northern extremities.

Merida is the chief town of Yucatan, an intendency of New Spain, and a vast plain, traversed from N. E. to S. W. by a chain of hills, the parts towards the E. being most fertile. The little port of Merida, called Sital, is opposite to a sand-bank twelve leagues in length†.

The capital of the province of Veragua is a city of the same name, also called St. Jago, as being under the protection of St. James. This is a small town tolerably situated, in a warm and moist climate, abounding in maize, yucca a root of which bread is made, plantains, and cattle, but principally in swine‡. The natives dye their cotton of a rich and permanent purple, with the juice of a sea snail found on the coast of the Pacific, akin to the murex of the ancients; with which, and some gold from their mines, they carry on trade with Panama, and the provinces of the kingdom of Guatemala. There is an elegant hospital; and fourteen villages are subject to the jurisdiction of this town, which is ruled by a governor. This province, as already mentioned, is one of the three which composed the kingdom of Tierra Firme, the political arrangement having, as in the Russian empire, set aside the geographical, for it is by all the Spanish writers allowed to belong to North America. It is a rugged country, full of inaccessible mountains, abounding however with excellent and beautiful woods, and the pastures of the vales are extremely rich. There are beautiful little monkeys, buff colour, with a white crown, but so delicate, that they soon die if carried the smallest distance from their native clime. It may be said to rain every day in the year, and often with terrible thunder and lightning, while from the mountains on the north descend rapid and dangerous torrents. The gold mines are opulent, the best being styled that of Guerrero, having been discovered by a person so called, but they are little worked, because every article must be carried on the shoulders of the Indians over the precipitous mountains. The great Colon, who discovered this country in 1503, was created duke of Veragua. The Doraces, and other savage tribes, live naked in the

\* According to Mr. Arrowsmith's map of the West Indies, New Guatemala stands about 25 geographical miles farther to the south, on the river Vacca, near the Barra de Itapa of D'Anville, now called the harbour of Guatemala.

† Humb. 266.

‡ Alcedo in voce.

mountains, on roots and fruits; but many began to be converted in 1760 by the Franciscans, who have founded some Indian villages.

The capital of Costarica, the most southern province of the kingdom of Guatemala, is Cartago, now a miserable place without any trade. This province has several mines of gold and silver, whence the name; and the chocolate is excellent. There is a large port, or rather small bay, on the Pacific, that of Nicoya, or the gulf de las Salinas, noted for the pearl fishery, and for the shell fish which dyes purple; while on the Atlantic is the port called that of Cartago, though at a great distance from the town.

Leon is the capital of the extensive province of Nicaragua, situated on a large lake of fresh water, abounding with fish. It is a bishopric, but a town of little importance. Granada\* is another little town, on the great lake of Nicaragua. Both were pillaged by the buccaneers of America towards the end of the seventeenth century. Realejo is a small entrenched town, with an excellent port, serving Leon the capital.

The northern provinces, in the centre, present no remarkable towns, the shores being loaded with shoals, which impede navigation and commerce. Campechy, in Yucatan, possesses nevertheless a tolerable haven, defended by three forts, and not a little frequented. The town is small, with two or three churches and convents; chief trade dying woods, wax, and cottons. Truxillo, in Honduras, also deserves mention.

Ciudad Real is the capital of Chiapa, and a bishopric, with a beautiful cathedral, three convents, and a nunnery. The trade chocolate, cotton, wool, sugar, and the precious cochineal, a peculiar product, which does not seem to extend much farther to the south. The population is insignificant, but many families pretend to great antiquity. The women were accustomed to take chocolate in the church, till the bishop issued his excommunication against this practice.

The city of Guatemala has been already described. Among the small districts forming what is called the province of Guatemala in the maps, the chief town of Soconusco is Gueguetan. Sonsonate contains about one thousand nine hundred souls, fourteen hundred being Spanish. Near it are three volcanoes, and the high ridge of Apaneca, running many leagues E. and W.

The town of Oaxaca, formerly called Guaxaca and Antequera, the capital of the province of the same name, is celebrated for abundant harvests of cochineal. M. Thiery, who visited this city in 1777, describes the situation as truly magnificent, at the opening of three large plains, one of which, according to our author, extends to the town of Guatemala, a prodigious distance. It is watered by a beautiful river, while on the N. E. several aqueducts bring pure and abundant waters from the mountains. The air is clear and healthy, being refreshed in the morning by the east wind, and by the west in the evening. His thermometer, that of Bourbon, was at 16° above the freezing point in the morning, and 22° at noon. This was towards the end of the month of May; but he adds, that the climate presented a perpetual spring, though in the latitude of 20°: he should have said 17° 30', but according to Alcedo 18° 2'. In fine, adds Thiery, magnificence of situation, artificial beauty, excellence of soil, tempera-

ture of the climate, constant successions of Oaxaca an enchanted spires and domes, an oblong square, two miles by one, full of gardens, of cactus, which are straight, well polished stone. The town with a stone of a circular form two or three as usual in Spanish sun. The other is solidly built, and the governor subordinates the province below,prising Indians, but he has certain families; and Alcedo and that in 1766 but many were in a family, the province of Oaxaca Guatemala, and, chocolate. There a fruit are ingenious however subject to last that happened

Tehuacan, or ad Oaxaca and Orizaba the same name, petrifying a natural four churches; a modern. The ch pomegranates are niards and mulatto M. Thiery approx there are two whe After passing th been already desc a considerable tow five hundred fami begun in 1738, i Palquaro is the cap city, more briefly Valladolid, in a pl leagues, or forty-

\* Thiery, l. 136.

† Thiery estimates gave 24,400. Humb.

‡ Among the produc late, plantains, cochine most of the rivers roll pe at the want of industry

\* Erroneously called Nicaragua in our maps, while there is no town of that name.

ture of the climate, abundance of fruits of Europe and America in constant succession — nothing but superior industry is wanting to render Oaxaca an enchanting city. The interior corresponds with the numerous spires and domes, which give a majestic appearance. The form is an oblong square, about sixteen hundred fathom by one thousand, (nearly two miles by one and a quarter,) including the suburbs, which are full of gardens, and of *nopaleries*, that is, plantations of nopals, a kind of cactus, which feeds the cochineal insect. The streets are wide and straight, well paved; and the houses, of two floors, are built of free-stone. The town house in the great square, a recent erection, is built with a stone of a sea-green colour. The bishop's house and the cathedral form two other sides of the same square, surrounded with arcades, as usual in Spanish towns, an useful practice against the rain and the sun. The other churches and monasteries, which are numerous, are solidly built, and richly decorated. There is a bishop and a provincial governor subordinate to the governor of Guatimala, to which audience the province belongs\*. Our author adds, that the population, comprising Indians, mulattoes, and negroes, is about six thousand souls; but he has certainly mistaken the Spanish computation, which is by families; and Alcedo informs us, that there are six thousand families; and that in 1766 there were more than twenty thousand communicants, but many were probably from the country. Supposing four persons in a family, the number would be twenty-four thousand†. The province of Oaxaca is esteemed the most fertile of the whole kingdom of Guatimala, and, besides cochineal, produces an abundance of excellent chocolate. There are manufactories of black wax; and the kernels of a fruit are ingeniously painted with miniatures. This celebrated city is however subject to earthquakes, and suffered considerably during the last that happened in New Spain‡.

Tehuacan, or according to some Teguacan, is a pleasant town between Oaxaca and Orizava. It is seated in a delightful vale, near a river of the same name, called also Rio Grande, of a nitrous quality, and so petrifying a nature, that the shores resemble ruinous walls. There are four churches; and the streets, squares, and houses are neat and modern. The chief market is of wheat, which is excellent, and the pomegranates are highly esteemed. Besides numerous families of Spaniards and mulattoes, there are about two thousand and eighty Indians. M. Thiery approached this town on his journey to Oaxaca; and says there are two wheat harvests, one in May, the other in September.

After passing the central provinces, of which the chief towns have been already described, we arrive at Mechoacan, or rather Valladolid, a considerable town, but without beauty or trade, there being only five hundred families of Spaniards and mulattoes. The cathedral, begun in 1738, is of the Tuscan order. But the city of Uztzila Palquaro is the capital of the province, and seat of the governor. This city, more briefly named Palquaro, is nine leagues to the S. W. of Valladolid, in a pleasant situation to the south of a great lake, twelve leagues, or forty-eight British miles in circumference, studded with

\* Thiery, l. 126.

† Thiery estimates the population of Oaxaca at 6000, but the enumeration of 1793 gave 24,400. Humb. 965.

‡ Among the products of the province are named by Estalla sugar, cotton, rice, chocolate, plantains, cochineal, cassia; there are mines of gold, silver, lead, and crystal; and most of the rivers roll particles of gold, xviii. 90. He at the same time expresses his regret at the want of industry in the inhabitants.

pleasant isles, and so abundant in fish, as to supply in part the city of Mexico. The population is five hundred families of Spaniards and mulattoes, and two thousand families of Indians, chiefly occupied in sugar mills, and in the copper mines which are in the vicinity.

Zacatecas, the capital of a district formerly celebrated for the richest mines of New Spain, has declined with these mines, and Guanajuato, about a hundred and forty British miles to the S. E. has become the chief seat of mineral wealth. Zacatecas contained about twelve thousand families of Spaniards and mingled breeds, though confining chiefly of one street, in a deep passage between high rocks crowned with cottages. San Luis de Potosi on the S. E. is said by Alcedo to contain only sixteen hundred families of Spaniards, mulattoes, and Indians, though it has six magnificent churches. The ridge of St. Peter, five leagues from the city, contained rich mines of gold and silver, but they are now in part exhausted, and the fuel has become scarce. The opulence of this city has in course declined, and the chief trade is in goat skins and tanned leather. Guanajuato has not profited by this decline, being merely a mining station, between the two capital towns of Guadalajara and Queretaro.

The furthest town of any note, towards the north, is Durango, more remarkable for the extent of the bishopric than for its population, which only consists of five thousand in all, even comprising the companies of militia to defend it against the Indians, still almost the sole inhabitants of the kingdom of New Biscay, of which it is the capital. The climate is benign and healthy, and the soil extremely fruitful in wheat, maize, and fruits, while the pastures abound with excellent cattle. There are four convents and three churches, one of them on a hill without the city. There is here an office of the royal treasury, to collect the duties on the numerous mines in New Biscay. The bishopric was founded in 1620, and is of a prodigious extent, over the whole provinces of New Biscay, that is, Tepeguana, Taramara, Topia, Batopilas, Culiacan, Cinaloa, Ostimuri, Sonora, Pimeria.

It has already been mentioned, that the northern provinces cannot be said to be peopled by the Spaniards, who have merely established religious missions among the savages. The garrison of Arispe\*, in Sonora, was the residence of the commander in chief of the northern provinces†, who has latterly resided at Chihuahua, which was founded in 1691, population about 7000. There are three or four churches, and a military academy.

Even Santa Fé, the capital of New Mexico, is rather a village than a town, but deserves description on account of its singular and remote position, being computed by the Spanish authors at the distance of six hundred leagues, two thousand four hundred British miles to the N. of the capital city of Mexico. It was founded in 1682, on the skirts of a high chain of mountains, giving birth to a clear river abounding in excellent trout. This river issues from a lake formed by numerous springs on the summit of the mountain, and passes through the middle of the town, which in lat 36°, has a climate resembling Spain, with seasonable rain and snow; the spring being mild, while the summer heats mature cotton in abundance. The population consists of three hundred Spanish families; the Indians of that district having

\* At Arispe the table utensils are mostly of gold; and the inhabitants celebrated for their urbanity. Pike.

† Anillon, 40.

no desire to live in that territory is clear. garden plants, are made. The horses, cattle, rising, it is said margins are adorned with excellent tall barren pine. other trees are excellent timber of 250 miles. and particularly to our author, moose deer. The expence of called Cumanchi Apaches.

Mr. Pike's account be proper to be forced to visit the Spanish territory. River del Norte prepared for an evening. It is down from the length on the streets in width. with the same seen in the spring are two churches contrast to the north of the town is the public square is situated the quarters for guard the clergy and public the front, some streets to be very lation is 4,500 so

Santa Fé stands Norte. The house and have a very richly furnished.

The next town Paso del Norte.

In the province a station or two de Bejar is regarded

\* The savages on the Tiburon), the Moqui tison, p. 41.

† Near Santa Fé the windows of that



no desire to live in the same town with their masters. The surrounding territory is clear of woods, fertile and pleasant, producing wheat, maize, garden plants, fruits, and particularly grapes, of which esteemed wines are made. The pastures are well watered, and well replenished with horses, cattle, and sheep: the Rio Bravo spreads fertility around, rising, it is said, fifty leagues to the N. W. of the capital, and its margins are adorned with beautiful woods, while the stream abounds with excellent fish. The neighbouring mountains are clothed with tall barren pines, and with a smaller sort, which bears large cones; the other trees are oaks of different kinds, sapines, and others, which form excellent timber. But in the southern part of the province is a desert of 250 miles. The animals are deer, bears, wolves, foxes, wild sheep, and particularly stags of the size of a mule, of which the horns, according to our author, are not less than two yards in length, probably the moose deer. There are mines of tin, which however do not defray the expence of working. The province is infested by a tribe of savages called Cumanches\*, and the southern part by the still more ferocious Apaches.

Mr. Pike's account of Santa Fé will be found interesting. It may be proper to premise that this ingenious and spirited traveller was forced to visit it against his will, having unexpectedly passed into the Spanish territory by having mistaken, amid the snowy mountains, the River del Norte for the Red River. "Here we changed horses and prepared for entering the capital, which we came in sight of in the evening. It is situated along the banks of a small creek, which comes down from the mountains, and runs west to the Rio del Norte; its length on the creek may be estimated at one mile, and is but three streets in width. But its appearance from a distance struck my mind with the same effect as a fleet of the flat bottomed boats, which are seen in the spring and fall seasons, ascending the Ohio river. There are two churches, the magnificence of whose steeples forms a striking contrast to the miserable appearance of the other houses. On the side of the town is the square of soldiers' houses, forty on each side. The public square is in the centre of the town, on the north side of which is situated the palace (as they term it) or government-house, with the quarters for guards, &c. The other side of the square is occupied by the clergy and public offices. In general the houses have a shed before the front, some of which have a flooring of brick; this occasions the streets to be very narrow, say in general 25 feet. The supposed population is 4,500 souls."

Santa Fé stands on a small stream which flows into the river Del Norte. The houses are generally only one story high, with flat roofs, and have a very mean appearance on the outside, but some of them are richly furnished, especially with plate†.

The next towns worth notice in the province are Albuquerque and Paso del Norte.

In the province of Texas, which properly forms part of Louisiana, a station or two may deserve mention. The garrison of San Antonio de Bejar is regarded as the capital of the province of Texas, also

\* The savages on the west of New Mexico are the Seris (who also possess the Isle of Tiburon), the Moquis, and Apaches; on the east the Lipanes and Cumanches. Antillon, p. 41.

† Near Santa Fé there is a stratum of talc in a mountain, which is used instead of glass in the windows of that town, and several villages in the north. — Pike.



ridiculously called the New Philippines. It was founded in 1731, consisting of a captain, a lieutenant, and one company of soldiers.

"St. Antonio, the capital of the province of Texas, lies in  $26^{\circ} 50'$  N. lat.  $101^{\circ}$  W. long, and is situated on the head waters of the river of that name, and perhaps contains two thousand souls, the most of whom reside in miserable mud-wall houses covered with thatch grass roofs. The town is laid out on a very grand plan. To the E. of it on the other side of the river is the station of the troops. About two, three, and four miles from St. Antonio are free missions, formerly flourishing and prosperous. These buildings for solidity, accommodation, and even majesty, were surpassed by few that I met with in New Spain\*."

Our enterprising author adds, that Nacogdoches is merely a station for troops, and contains nearly 500 souls; it is situated on a small stream of the river Toyac†.

The station of Ceniz, which Alcedo positively ascribes to Louisiana, is now a mere Indian village, with the ruins of a fort built by the French. That called Nachitoches, from an Indian tribe, friends of the French, and enemies of the Spaniards, was a small fort, built in an island of the Red River by some French veterans. But the station of Adayes, or Adacs, was regarded by the Spanish writers themselves as the extreme fortress in this quarter: it was seated in a fertile country, at the distance of two leagues from a lake of the same name, which abounds in fish. In the middle of the lake, in front of the garrison, there is a hill, or rock, of a pyramidal form, more than one hundred yards in circumference, the stone of which it is composed, resembling crystal in its reflection of the solar rays, and it is at the same time the highest in the district. In some parts this lake is five leagues in diameter, and may be ten in circumference, with a gulf which may be navigated by large vessels, and could not be sounded with a rope of one hundred and eighty fathoms‡. The vicinity abounds in wild cattle, bears, and beavers; and the soil is fertile in maize and other grain. The garrison, used to consist of a captain, with a company of fifty-seven men.

**EDIFICES.]** The chief edifices are the cathedrals, churches, and convents, as may be expected where the clergy are so predominant, that civil architecture, and civil affairs, are almost entirely neglected. The cathedral of Mexico is regarded as the most splendid. It is of great size, divided into five naves or avenues, three open for the processions, and two containing chapels and altars; the length being four hundred geometrical feet, and the breadth one hundred and ninety-five, with one hundred and sixty-four windows§. The building commenced in 1573, and was completed in 1667, costing one million seven hundred and fifty-two thousand dollars; in 1743 it was adorned with a beautiful altar by Balbas. The choir is decorated with four pulpits or rather galleries, joined by a railing of what our author styles Chinese metal, probably tutenague||, covered with small lamps: at great solemnities the illumination is magnificent, and reflected by numerous ornaments of massy silver.

\* Pike's Travels.

† The most northern station in that quarter is Fort Clayborne of the Nachitoches, seven leagues to the east of the ancient situation of Adayes. On the north-west of Clayborne is Spanish lake, in the midst of which is a large rock covered with stalactites. Afterwards appear the French settlements of Louisiana. — Humboldt, 247.

‡ This lake is unknown in all the maps, as is also that of St. Ann, if not the same.

§ Estalla, xxvi. 271.

|| In another place, 282, he calls it a kind of tambac.

**ROADS.]** No Mexican empire. neglect; and the by Estalla as such length, and even here translated \*. that, at the end of as neglected as at raffments, and a t active and intellige and the road was Cordova, and O leagues, each leag eighty leagues am high roads of Sp waited twenty-two less than thirty-five value of commoditi eleven dollars. Th carriages, while the employed; and the to the capital was n there is only one la fructed. The num and the expence is p while, on a good ro eight days. On th beds being a kind obliged to bring all l ters were used; while According to the la the new road from Puebla, and might c best in Europe. It derful exertion, whe of the United Stat Philadelphia to New **MANUFACTURES** much consequence. Indians. There are equal to the Spanish and earthen ware, periodical publicatio the manufactures at Guadalupe they ma even to Spain, where women. In the cit cloth, some esteemed accustomed to keep t the parent country. Mexico, are highly

\* Viagero, xxvi. 261. 3

† M. Thierry says, the houses, so called because t miserable lodging for travel

‡ Estalla, xxvi. 243. 2

**ROADS.]** No commercial canal appears to have been executed in the Mexican empire. Even the roads remained in a state of complete neglect; and the new highway from Vera Cruz to Mexico is regarded by Estalla as such a surprising effort, that he has described it at great length, and even repeated his description, of which a part shall be here translated \*. It was, says he, a disgrace to the Spanish nation, that, at the end of two centuries and a half, this road continued to be as neglected as at the time of the conquest, full of dangers and embarrassments, and a thousand inconveniences. At length, about 1796, a active and intelligent viceroy, Branciforte, undertook this great design; and the road was begun to be conducted by Puebla de los Angeles, Cordova, and Orizava. The distance is about eighty American leagues, each league of five thousand *varas* of Castille, so that the eighty leagues amount to fifty of those measured and marked on the high roads of Spain. During this distance, the caravans of mules waited twenty-two days in the dry season, and during the rains not less than thirty-five days were employed, so as greatly to enhance the value of commodities, a mule's load from Vera Cruz to Mexico costing eleven dollars. Three quarters of the road are plain, and proper for carriages, while the rest is mountainous, so that no carriage could be employed; and the expence of bringing a new coach from Vera Cruz to the capital was not less than three hundred dollars. In all this space there is only one large river to pass, and a bridge might be easily constructed. The number of mule loads is about sixty thousand annually, and the expence is prodigious where large articles cannot be transported; while, on a good road, waggons might perform the journey in seven or eight days. On the ancient road the inns were miserable, the only beds being a kind of tables, as in a barrack, and the traveller was obliged to bring all his provisions. From Vera Cruz to Perote large litters were used; while from Perote to Mexico carriages were employed †. According to the last information which Estalla could procure, in 1798, the new road from Mexico to Vera Cruz was already extended to Puebla, and might compare in breadth, level, and bridges, with the best in Europe. It is to be hoped that it is now completed—a wonderful exertion, when we consider the numerous roads in the territory of the United States, who have ordered a good carriage way from Philadelphia to New Orleans, a distance of one thousand miles!

**MANUFACTURES.]** The manufactures of New Spain are not of much consequence. Coarse cottons form the universal dress of the Indians. There are many tanneries, but the leather is far from being equal to the Spanish; and the same observation will apply to the glass and earthen ware, although the materials are excellent ‡. A cheap periodical publication, describing the arts, machines, and discoveries in the manufactures and agriculture would be of singular utility. In Guadalaxara they make earthen jars of a sweet scent, which are brought even to Spain, where they are sometimes eaten by the caprice of the women. In the city of Queretaro there are various manufactures of cloth, some esteemed superior to those of Spain, and the soldiers are accustomed to keep their uniforms, as a splendid dress on their return to the parent country. The hams of Toluca, twelve leagues S. W. from Mexico, are highly esteemed. In Puebla there are forty-three manu-

\* Viagero, xxvi. 361. 369. 37. 34. 311.

† M. Thierry says, that the only inns to the southward are the *Casas Reales*, or royal houses, so called because they serve as courts of Justice, while in the night they afford a miserable lodging for travellers.

‡ Estalla, xvi. 345. 37. 201.

factures of woollen cloth, but the dearest is only six reals a yard. There are also potteries and glass houses, and one thousand two hundred and twenty-two looms for veils, mantles, and other articles of fine cotton, some mixed with silk. In the province of Oaxaca there are only two manufactures of indigo, and five hundred and seven looms employed in weaving cottons. Valladolid has thirty-four manufactures of wool and cotton, while Potosi has only one, and Zacatecas none. In the district of Guanajuato there are a great number of looms for woollens, the dearest being nine reals a yard. The manner of weaving appears to be as simple as in Hindostan, yet the war having embarrassed the importation of European articles, they were imitated with considerable success, and even blond lace has been carried to great perfection. The manufacture of plate is carried on to a great extent. Silk is found wild in the province of Oaxaca. The cochineal, a rich article, belongs to agriculture.

COMMERCE.] The commerce of New Spain is of great extent and importance, and has recently undergone considerable improvements, which deserve illustration. The Chinese ship, so called because it came from the Philippines, used to arrive yearly at Acapulco, and was an object of prey to the English marine in time of war. While Estalla loudly accuses us of insatiable ambition, he ought rather to have said avarice, to which justice has often been sacrificed in a Spanish war. The recent monarchs, Charles III. and his successor, the reigning sovereign, have exerted themselves so beneficially in favour of the American colonies, that more has been done during the last and present reign, than for the whole preceding period. The liberty of commerce, and the new system of sub-delegation, have already produced such advantages as to overcome the weak declamations of those interested in the ancient monopoly, and the disorders of the political and commercial establishments. America was formerly regarded merely as a country of mines; but now all the other branches of industry are cultivated, and the commerce is greatly increased since the year 1778, when greater freedom began to be introduced. At first, however, the merchants, seeing that they could no longer make such exorbitant gains, withdrew their stock, and laid it out in farms, mines, and mortgages, leaving trade to new speculators of smaller capital, but of greater information, and who had not been corrupted by excessive profits gained without any risk. The new men were contented with moderate advantages, and did not aspire to found *mayorazgos*, or entailed estates, or other establishments of equal utility to society. Thus two advantages arose from the liberty of commerce: industrious individuals and the general mass were enriched, while the great capitals of the former monopolists returned to support agriculture and the mines. The number of shops has been greatly increased. The imports have also augmented, so that at Vera Cruz alone they amounted, in 1792, to fourteen millions twenty-three thousand eight hundred and eighty-nine dollars. Our author proceeds to explain the beneficial effects of the new system upon agriculture, which he proves by the increase of the tythes; and upon the mines by the increased quantity of the coinage; both which effects are large and apparent. The duties also testify the rise of trade, upon a medium of thirteen years, compared with thirteen preceding the change; the advantage in favour of the former being more than fourteen millions of dollars. The merchants are no longer subject to the monopolists of the capital, but proceed directly to Vera Cruz to buy their commodities; and thus also avoid a duty of six per cent. payable on entering the metropolis. Several small expenses are

also avoided; and goods are not of abundance, the price

From various advantages of the points of view; raising occasional hands, instead of in expensive found are many merchants without any impediment innumerable, though being dependent upon of ease among the ancient system, the extravagant and careless waste of their revenue many circumstances treasury; at present theatre of the capital cleared twelve thousand at Vera Cruz, and

Estalla, as already New Spain, or in other at three millions and thirteen and fourteen does not consume silks, linens, fine wools. The importations with the change of fashion learned from the dress. For example, the dress to the women of New Spain. Even the nuns wear the poorest women a cloak, as a shawl is over the shoulder, or They are of silk, or and one broad; but half; many are bordered with gold, gold, silver, and silk. Those of Puebla sell Sultepeque and Tem one may cost fifty dollars, web, and elegance robes, not worth it be a valuable article, spurs are also in gr plough-shares, and wheels, &c. will also establishment of commerce would also be augmented in the capital were high wages, labour

also avoided; and there being a greater concurrence of buyers, the goods are not only more speedily sold, but being imported in greater abundance, the prices are considerably reduced.

From various calculations, which need not here be repeated, the advantages of the new system are demonstrated, in various important points of view; and if the parent country find greater difficulty in raising occasional loans, it is because the capitals are dispersed in many hands, instead of being confined in a few, who often employed them in expensive foundations of religious colleges or convents. Yet there are many merchants who can disburse twenty or thirty thousand dollars, without any impediment; and they who can advance smaller sums are innumerable, though formerly there were none of this last class, all being dependent upon the monopolists. Hence also a greater appearance of ease among the middle classes, and even the poor; while, under the ancient system, the overgrown wealth of a few individuals led them to extravagant and capricious luxury, and the most useless and improper waste of their revenues. The greater diffusion of wealth appears from many circumstances. Formerly many tickets of the lottery remained in the treasury; at present all are sold, because many can afford to buy. The theatre of the capital, which only used to yield four thousand pesos, in 1792 cleared twelve thousand three hundred and six. In 1791 a theatre was opened at Vera Cruz, and one has also been erected in the city of Queretaro.

Eitalla, as already mentioned, computes the whole inhabitants of New Spain, or in other words, the Spanish dominions in North America, at three millions and a half; hence, says he, as the imports are between thirteen and fourteen millions of pesos, it will be seen that each person does not consume above four pesos, though many of the articles, as silks, linens, fine woollen cloths, iron and steel, are of the first necessity. The importations would be more considerable, if the merchants studied the change of fashions, and the general taste, which may in part be learned from the description already given of the manners and customs. For example, the *panos de reboso*, a kind of veils, are so indispensable to the women of New Spain, that they are of the first consumption. Even the nuns wear them; and the most distinguished ladies, as well as the poorest women in the market, use the *reboso*, as a mantle, as a cloak, as a shawl in the street, in the chamber, and in bed; it is thrown over the shoulder, over the head, over the face, or around the waist. They are of silk, or silk and cotton, about three yards and a half long, and one broad; but some two yards and a half by three quarters and a half: many are entirely of cotton, some mingled with silk, some bordered with gold and silver; but the most valued are bordered with gold, silver, and silk, and are prized according to fineness and pattern. Those of Puebla sell from ten to fifty pesos the dozen; but those of Sultepeque and Temascaltepeque cost at least five dollars each; nay, one may cost fifty dollars, according to the fineness and quality of the web, and elegance of the border. The common class wear coarse *rebosos*, not worth importation; but the finest, says our author, would be a valuable article, as labour is far cheaper in Spain. Saddles and spurs are also in great demand, horses being so cheap and common; plough-shares, and other iron articles, and mining utensils, iron for wheels, &c. will also find a speedy sale. One author recommends the establishment of commercial schools as an essential object. Commerce would also be augmented, if an abuse which has already been remedied in the capital were banished from the provinces. The workmen gain high wages, labour being very dear; but instead of wearing decent

cloathing, they are indecently naked, and employing a few days in labour, waste the rest in drunkenness. Yet this defect chiefly arose from the want of constant occupation, in part proceeding from the former system of regular fleets. But the government retaining a part of the salary for the purchase of cloaths, the workmen in the various royal manufactures and offices were obliged to adopt greater decency, though formerly accustomed to appear naked even in the cathedral.

In another part of his work Estalla gives additional information on this important subject. The commerce of the viceroyalty may be regarded under five distinct heads; that with China, or rather the Philippine islands, that with Peru, the West Indies, Spain, and the interior of the viceroyalty\*.

The first consists solely in the ship, which arrives yearly with five hundred thousand pesos of capital, at prime cost, in the Philippines, but worth at least double the sum in New Spain. The greater part of the cargo is in silks, printed cottons, or chintzes, wax, porcelain, and other small articles. If delayed by storms or accidents, the cargo is doubled in the following year. This trade had declined, but is now re-established; and the last ship was computed at two millions of dollars, though the printed goods of Catalonia begin to supplant those of Asia. The company of the Philippines at Cadiz, remitted to Vera Cruz in 1790, 1791, and 1792, goods of those islands to the amount of more than four hundred and fifty thousand pesos, so as to impede the market of those brought to Acapulco: and this new plan may probably supplant the ancient, especially in the commandancy of Guatemala, and the northern coast, separated from Acapulco, by a great distance of miserable roads. From this account it will appear, that when Estalla wrote, a free trade was not established between New Spain and the Philippines, though some writers have asserted that such a regulation had long before taken place.

The trade with Peru, also conducted at Acapulco, is considerably decayed, now consisting chiefly in chocolate, from Guayaquil, to the amount of about three hundred thousand pesos, which are remitted in money.

That with the West Indies is of greater importance; the principal article of trade with Havanna was wax, but it has declined; in return were sent leather, soap, cotton, but chiefly grain.

The trade with Spain is the best regulated. The imports, as already mentioned, amount to about fourteen millions of dollars, while the exports are computed at three millions and a half; the residue of metals, which do not enter the royal treasury, being computed at five millions; while a large sum is paid for various offices, the maintenance of the army, and of manufactures, a part being of course employed in the purchase of Spanish goods, of which the consumpt is greatly increased; but the one half of the import is thought to be in brandies. The chief article acquired from strangers is linen, of which there is no important manufacture in Spain: in 1793, this branch amounted, in what are called *bretanas*, from Brittany, in France, to one million five hundred and ninety-five thousand five hundred and fifteen pesos; and other linen goods to one million seven hundred and seven thousand eight hundred and forty pesos; thus exceeding in value all the other foreign articles, which in that year amounted to five millions three hundred and seventy-eight thousand seven hundred and forty-two pesos.

\* Estalla, xxvii. 206.

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the temperature of Moisture seems to as in the South A rain for nine mo extreme heat, wh Violent storms are to rise from the g ever, hot and un January†. The sent white frost an climate is mild an no artificial warmt under the open d day, from April t Thunder is frequ circumstances of te It has already b the best accounts i

\* D'Aueroche.

† The climate of C Perouse, ii. 203. Even productive of maize, ba Mexico, in June, O&A The province of Cinal nine four or five times in January, when the cold Svirige. Ib. 130.



The interior trade has hitherto been very insignificant, because there are neither canals nor good roads.

Our author adds, that advantages may be expected from the new spirit of discovery, the ships called *Sutil* and *Mexicana*, after having evinced that there was no passage between the Pacific and the Atlantic, in a second voyage, 1793, explored a great part of the N. W. coast of America; and another expedition was planned in 1794, to examine the coasts of Sonfonate and Tehuantepec, in the southern centre of the viceroyalty, which nevertheless remain almost unknown to Spanish indolence.

COINAGE.] The coinage and dollars of New Spain are well known through the whole commercial world. It now amounts, as already observed, to twenty-six millions of pesos, while it was formerly about eighteen millions. That of all the Spanish dominions of South America, according to Helms, does not exceed ten millions, whence the far superior opulence of New Spain is easily perceivable.

## CHAPTER IV.

### NATURAL GEOGRAPHY.

*Climate and Seasons. — Face of the Country. — Soil and Agriculture. — Rivers. — Lakes. — Mountains. — Forests. — Botany. — Zoology. — Mineralogy. — Mineral Waters. — Natural Curiosities.*

CLIMATE.] THE climate of this interesting country is singularly diversified, between the tropical seasons and rains, and the temperature of the southern and even middle countries of Europe. Moisture seems to predominate in the Isthmus, but not to such a degree as in the South American province of Darien, where it may be said to rain for nine months of the year. The rains, however, temper the extreme heat, which would otherwise be intolerable in this climate. Violent storms are not unfrequent; and sometimes the lightning seems to rise from the ground\*. The maritime districts of Mexico, are, however, hot and unhealthy, so as to occasion much perspiration even in January†. The inland mountains, on the contrary, will sometimes present white frost and ice in the dog days. In other inland provinces the climate is mild and benign, with some momentary snow in winter, but no artificial warmth is found necessary, and animals sleep all the year under the open sky. There are plentiful rains, generally after mid-day, from April till September; and hail storms are not unknown. Thunder is frequent, and the earthquakes and volcanoes are additional circumstances of terror‡.

It has already been seen that the climate of the capital, though by the best accounts in the latitude of  $19^{\circ} 25'$ , differs greatly from that of

\* D'Auterche.

† Clavigero, i. 11. He was himself a native of Vera Cruz.

‡ The climate of California is mild but foggy, and the soil remarkably fertile. La Perouse, ii. 203. Even northern California, as far as Monterey, is by his account singularly productive of maize, barley, and peas. Careri, vi. 35. Fr. tr. says there are three harvests in Mexico, in June, October, and the *aventurera*, or accidental one, upon the mountains.

The province of Cinaloa is very dry, but well watered by rivers. On the coast it scarcely rains four or five times in the year, and the weather is very warm, except in December and January, when the cold is extreme. Estalls, xxvii. 127. The chief mining station there is Sivirioja. Ib. 130.



the parts of Asia and Africa, which are under the same parallel. This difference seems chiefly to arise from the superior height of the ground, a new observation in geography. Humboldt found that the vale of Mexico is about 6960 feet above the level of the sea, and that even the inland plains are generally as high as mount Vesuvius, or about 3600 feet. Such standards have hitherto been applied only to mountains; and one of the last improvements of the science is their application to plains and valleys. This superior elevation of course tempers the climate with a greater mixture of cold. Yet in the parts to the north of Guadalajara, where the high chain of Topia runs north from the neighbourhood of that city, for a space of a hundred and fifty leagues, or about six hundred English miles, as far as New Mexico, the rains are continual the whole day, from the month of June to September; and in the province of Tabasco, the rains are perpetual for nine months of the year\*. The southern coasts are equally affected; while, as climate depends more upon elevation and depression, than upon imaginary zones, the interior of the country presents surprising varieties and unexpected singularities†. Nor can it be regarded as unhealthy, as the aborigines sometimes attain a great age; and grey hairs, baldness, or wrinkles, are unknown till a very late period of life. But though they are exempted from paying tribute after the age of sixty, yet they can rarely count the years of their existence, and they cannot always be traced in the parish registers‡. In the year 1779, there was living in the jurisdiction of San Juan de los Llanos, an Indian, who had a son aged between a hundred and twelve and a hundred and twenty, a grandson aged ninety, and what is equally surprising, a son about nine years of age. It was proposed to bring him to the capital, but as the change of diet and climate might have been fatal, he was left in his parish, where unhappily there were no registers at the time of his birth. This, with other instances, may serve to evince, that the prejudices of some philosophers (for philosophers have their prejudices) against the climate and productions of America, are unfounded. If there be any where a marked inferiority in every respect, of climate, men, animals, and vegetables, it is in Africa, a most ancient part of the ancient world, that it must be sought.

The climate has generally a ruling influence over the diseases of a country. Some hints have already been given concerning those of the capital. The yellow fever, or what is called the black vomit, has been repeatedly, during the last century, one of the most fatal maladies; but the physicians of the United States have certified, that this pestilence is confined to sea ports, and never passes inland. The Spaniards have observed, that the use of salted provisions is noxious, and renders the contagion more easy; but the chief preventative is extreme cleanliness in the streets and quays, and the removal of all offensive accumulations.

[FACE OF THE COUNTRY.] The general appearance of these extensive regions is at once singular and greatly diversified. When M. Thierry had passed the ridge of Orizava, proceeding towards the south, he found that nature assumed quite a new aspect,

Groves of new pump and meads of other flowers;

\* Estalla, *avril*. 103. 106. In New Biscay the rainy season begins in June and ends in September; at Chihuahua the air is very electric. *Pike*.

† Humboldt *allows*, p. 358. that the use of the zones, as temperate, torrid, &c. is improper. Why then attempt to restore them, when they have been dismissed from geography? *Estalla*, *avril*. 340.

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\* M. Thierry, l. 75.

† Estalla, *avril*. 91.

the vegetable decoration being of surprising beauty\*. Rare geraniums, heliotropes, tradescantias, &c. appeared under the yuccas, a kind of aloe thirty feet in height, while the most numerous plant was the maguey, of equal singularity and utility. The highways are bordered with hedges of the sensitive plant. Further on he found superb *ignonias*, with yellow flowers, from sixty to one hundred feet in height, while the sides of the hills were covered with a beautiful *cactus*, of the nature of what we call Indian figs, forming a curious ornament of the landscape. From a trunk of fifteen or sixteen feet in height, and five or six in circumference, spring straight branches, which are crowned by a series of others, regularly diverging like the branches of a chandelier, so as sometimes to fill a circumference of forty or fifty feet in diameter, and equal height, thus resembling a large chandelier of a sea-green colour. The fruit, which is wholesome, discloses, when ripe, a crimson pulp; but the fall of the leaves, resembling beams full of thorns, is dangerous to the passenger. The pitahias, a smaller species of these plants, affords a delicious fruit, the common food of the Indians. Grand ridges of mountains, numerous volcanoes, some of them covered with perpetual snow, precipices and cataracts worthy of the pencil of Rosa, delicious vales, fertile plains, picturesque lakes and rivers, romantic cities and villages, an union of the trees and vegetables of Europe and America, contribute to diversify this interesting country.

**SOIL.—AGRICULTURE.]** The soil is often a deep clay, of surprising fertility, and requiring no manure save irrigation. Though the population be, as we have seen, extremely thin, yet agriculture has of late years made considerable progress, at least in the eyes of Spanish authors. Since greater freedom has been granted to commerce, many of the rich monopolists have employed their funds in the cultivation of land. The progress may partly be judged from the state of the tythes, which in the archbishopric of Mexico, for ten years, from 1769 to 1779, amounted to four millions one hundred and thirty-two thousand six hundred and thirty pesos; while for the ten years, from 1779 to 1789 they rose to seven millions eighty-two thousand eight hundred and seventy-nine pesos; the difference being two millions nine hundred and fifty thousand two hundred and forty-nine pesos, or more than half of the former proceeds†. A similar difference, though not so great, appears in the bishoprics of Puebla, Oaxaca, Guadalajara, and Durango, which, with Valladolid, embrace the whole viceroyalty of Mexico, strictly considered, Guatemala being regarded as a distinct kingdom. The tythes stand thus:

|                         |            |
|-------------------------|------------|
| Archbishopric of Mexico | 7,082,879  |
| Bishopric of Puebla     | 3,239,400  |
| Oaxaca                  | 863,287    |
| Guadalajara             | 2,579,108  |
| Durango                 | 1,080,313  |
|                         | <hr/>      |
|                         | 14,844,987 |

Our author has omitted the valuation of Valladolid, but if we suppose the whole tythes to amount to sixteen millions of pesos in ten years, we have at the same time, a rough calculation of the value of

\* M. Thiers, l. 75. 99.

† Eguila, avril. 9; but, p. 10, he says the difference is 4,924,664.

agricultural products, which, including the kingdom of Guatemala, may very probably amount to the yearly sum of twenty millions\*.

Near Guadalupe is the celebrated estate of the marquis of Altamira, about forty leagues in extent, which sends annually to Mexico between three and four thousand beeves. It is also very productive of wheat, pimento, &c. with numerous flocks of sheep and swine; but markets are wanting. The estate however might yield forty thousand pesos a year†. The most fertile part of the central plain extends from Queretaro to the town of Leon.

The product of cotton might be greatly increased, there being a superabundance of land proper for that purpose. Flax and hemp are neglected, because other products present greater gains, more ease, and security. Of indigo there are annually exported one thousand five hundred *arrobas*, and eight thousand quintals of pimento. The cultivation of sugar is greatly increased, and the augmentation of the price in Europe has rendered the trade considerable. Tobacco was introduced in 1765, and has become a most important branch. Vineyards form a new object of great promise. The celebrated cochineal is rather an object of horticulture, and requires considerable attention. The plant is a peculiar species of cactus, called *nopal*, and the insect is peculiar to the plant, being very small and enveloped in a white film, but when crushed, the beautiful carmine or crimson appears. The propagation of this plant, which is about eight feet in height, is performed by branches, but for a long journey the roots alone can be trusted‡. The insect is dried before it becomes an article of commerce; and the annual exports are computed by Estalla at twenty-three thousand six hundred *arrobas*. By another computation the quantity of cochineal exported to Spain is four hundred and sixty thousand pounds, costing in New Spain about twelve shillings a pound, and yielding at Cadiz about thirteen or fourteen shillings§. The people employed in this culture are computed between twenty-five and thirty thousand; and the value of the trade, to the province of Oaxaca, is reckoned one million of pesos, but the cultivator does not gain above nine per cent.

The division of land is far more unequal than in Spain itself, there being estates equal in extent to provinces or small kingdoms; but this circumstance is not so detrimental as it would prove in Europe, the Indians being very slothful, and shewing little spirit in cultivation. They are encouraged to form villages by liberal grants of land, but there are few who avail themselves of this favour, and they are fond of speedier gains, as cutting woods, making charcoal, &c. an indelible effect of their character and manner of thinking, for with them to-day is all, and to-morrow nothing. Our author however concludes, that the produce of many articles has been tripled within these few years, such as indigo, cotton, pimento of Tabasco, and above all, the precious cochineal; while tillage, and the rearing of herds and flocks, has been far more universally diffused.

\* Our author adds, that in the ten last years agriculture, and the stores of cattle, sheep, and swine, have increased nine times; and the total increase of agriculture, during the last epoch, is of the value of 49,966,640 pesos in the sole article of tythes. How is this to be understood? It is in fact the difference of the tythes (p. 10), multiplied by ten, which gives the advance of the estimate of agriculture in general during ten years, not that of the tythes.

† Estalla, xvii. 102.

‡ See the curious work of M. Thierry on the culture of the *nopal*, which accompanies his journey to Oaxaca.

§ Thierry, lxx.

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**RIVERS.]** The principal river of Spanish North America is, beyond all comparison, that called del Norte, or of the northern star. The course of this important river, so far as its sources can yet be conjectured, may be about 1000 British miles; for its whole circuit probably exceeds that of the Danube. The nature of the shores, and the various appearances and qualities of the waters, have not been illustrated. Alcedo only informs us that it divides the province of Coaguila from that of Texas, which last is in fact a part of the ancient Louisiana\*. Between this river and the Mississippi, the chief rivers that join the gulf of Mexico, are the Nueces, the Mariana, and St. Antonio, Guadalupe, the Red River of Texas, the Brassos, the Trinity, Nathech and Sabina. But besides the river Platte (Plata of the Spaniards), a prodigious stream which joins the Missouri, two other enormous rivers, the Arkenza and Red River, cross Louisiana from W. to E. to join the Mississippi.

By the Spanish survey of the gulf of Mexico, republished at Paris 1801, it appears that the Arcokifas ends in a noble bay, called Calveston, which is unknown to Alcedo. The river Mexicano, near which the settlement of Adayes is commonly placed, does not appear in this chart, the name being supplanted by that of Mermentas, while the Chicowanish of Arrowsmith is the river De Nieves of the Spaniards. But there is no small uncertainty and change in the nomenclature of these rivers, Louisiana having been little explored by the Spaniards, who regarded it as a frontier desert between their colonies and those settled by the English. The chief rivers however appear to be the Nueces, the Red River of Texas (which has been confounded with the enormous Red River), the Trinity, and the Sabina, at present the reputed boundary between the Spanish territory and that of the United States.

Major Pike's travels have thrown great light on the geography of the rivers on the N. E.

The cotton wood abounds on the river Arkenza, which, from its source to where it leaves the mountains, a distance of 170 miles, is often bounded by perpendicular precipices. It is navigable for not less than 1980 miles from its entrance into the Mississippi to its exit from the mountains.

By the Arkenza and the Colorado of California, the communication might be opened between the Atlantic and the Grand Ocean, the land carriage not exceeding 200 miles.

"The source of the La Platte is situated in the same chain of mountains with the Arkenza (see Chart), and comes from that grand reservoir of snows and fountains which gives birth on its north-eastern side to the Red River, the Yellow Stone River of Lewis, and of the Missouri (its great south-western branch), and the La Platte. On its south-western side, it produces the Rio Colorado of California, on its

\* The source of the Rio del Norte is laid down in Antillon's map, from information procured in the year 1779, where the governor of New Mexico, De Anza, made an expedition against the savages called Comanches, and on the 23d of August was at 38° 30', when the savages informed him that the river rose fifteen leagues to the N. W. in the ridge called Grullas, which belongs to the easterly chain, in the neighbourhood of Santa Fé. The source is in a morass, which not only abounds in springs, but is fed by the constant dissolution of snow from adjacent volcanoes. Antillon, p. 44.

In 1806 Capt. Pike, in searching for the sources of the Red River, unexpectedly found himself on the Rio del Norte. Humboldt says, the Rio del Norte rises in Sierra Verde, on the east of the lake of Timpanogos, its course being computed at 512 leagues.

east the Arkenfa, and on its south the Rio del Norte of North Mexico. I have no hesitation in asserting I can take a position in the mountains from whence I can visit the source of either of these rivers in one day."

"The river Saint Antonio takes its source about one league to the N. E. of the capital of the province (St. Antonio), and is navigable for canoes to its source, affording excellent fish, fine situations for mills, and water to every part of the town. It is joined by the River Mariana from the W. (which forms part of the line between Cogquilla (Cohahuila) and Texas) and then discharges itself into the Rio Guadalupe, about 50 miles from the sea. At the town of St. Antonio, it is about 20 yards wide, and in some places twelve feet in depth. The river Guadalupe takes its source about 150 miles to the north-west of St. Antonio, where we crossed it. It was a beautiful stream of at least 60 yards in width. Its waters are transparent, and navigable for canoes. After receiving the waters of St. Antonio and St. Mark, it discharges itself into the S. W. end of the bay of St. Bernard. At the crossing of this river there is a range for the horses of St. Antonio, and a Guard de Caballo, with an elegant site for a town."

The river St. Mark rises about 20 miles to the west of St. Antonio, and is navigable for canoes. The Red River of Texas, which must be carefully distinguished from the great river so called, rises in 33° N. lat. and after a course of about 600 miles runs into the bay of St. Bernard. Where Pike passed this stream, it was at least 160 yards wide.

Towards the west is a large river, the Colorado, which flows into the Vermillion sea, or gulf of California, also called by D'Anville *Colorado*, with the addition *de los Martyres*; while Gila is the *Rio Grand de los Apostolos* — barbarous appellations imposed by the jesuits, who had settlements in California. The course of this river may be computed at 600 British miles. This Rio Colorado, or Red River, is so called because the waters become of that colour, owing to the rains falling upon a soil of red clay. It is a deep and copious stream, capable of considerable navigation\*. The neighbouring savages, called Cocomicopas, are dextrous in swimming across, holding in the left hand a piece of wood, which supports their arms or burthen, and steering with the right, while the women, supported by a kind of petticoat of basket work, upon which they place their children, pass in like manner. The course of the Colorado is generally from N. E. to S. W. sometimes W. It is joined from the E. by a large river called Gila, which is however every where fordable. Of the Indian tribes in this quarter some accounts shall be given elsewhere. The country between these rivers is said to be an upland desert, without water or pasture. On the other side of the Colorado the country is said, on the contrary, to be very fertile, and the natives rather fond of cultivation. It is believed that considerable rivers also join the Colorado from the west; but if the Spaniards have explored that part of the country, they conceal their information.

Pursuing thence a southern progress, the first important river which occurs is the Hiaqui, a large and fertile stream, which inundates the neighbouring provinces of Sonora and Ostimuri†. Rising in the extensive province of Tauramara, it leaves or pervades the grand chain of mountains, running about one half of its course towards the N. W. after which it pursues the remainder towards the S. W. entering the gulf of California at the village of Huiribis, where there is a secure

\* Estalla, xvii. 141.

† Estalla, xvii. 139.

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harbour, the nearest to California, and whence provisions are generally conveyed to that peninsula. The banks produce abundant harvests of maize, French beans, a kind of peas, and lentiles. The high ridge of Topia, already mentioned, also gives source to other considerable rivers, some of them passing into the gulf of Mexico, while others join the Pacific, and which swell greatly on the melting of the snows, which sometimes impede the roads to the depth of two yards. There is also a high table land, as in the centre of Asia; and the three rivers, Nazas, Papasquiario, and Ahorcados, are lost in a large lake, probably the salt lake of D'Anville, being that of Parras in the map of Alzate, placed by Alcedo in the province of Tepeguana. These inland rivers, are little known, but the Nazas, or Nafas, appears to be the chief stream; and Alcedo informs us, that the banks produce excellent grapes. Its course would seem to be about two hundred miles. The Papasquiario, so called from a settlement on its banks, joins the Nafas from the S. The capital town, Durango, also stands on an inland river, which is lost in a lake. This river seems to be the Guadiana (another name of Durango), or the Saucedo of D'Anville, who alone, of all geographers, has been careful to mark the names of rivers and mountains, the most important features of nature.

On returning to the western coast there occurs a very considerable river, in some maps called St. Jago, or the Rio Grande, a name so often repeated as to signify nothing. Estalla more correctly calls it the river Barnaja, or Elquitlan, in which he follows Alcedo; and D'Anville had long since styled it the Barania. This river passes through the large lake of Chapala, but its course may be traced from a small lake not far from Mexico, whence it pursues a N. W. progress of about four hundred and fifty British miles.

Nearly in the same latitude an important river, the Panuco, which rises in the metallic mountains of San Luis Potosi, flows into the gulf of Mexico; but this river, in the Spanish charts is styled the Tampico, under which name it is described by Alcedo, who has omitted the district of Guastecas, still retained in the maps. It would appear that the Tampico is properly the estuary of the rivers Motezuma and Panuco.

The river Tula, or Motezuma, is not only important in itself, but is remarkable in conducting the waters of the Mexican lakes to the Atlantic, not the Pacific as has been imagined. It rises on the W. of the Mexican chain of mountains. To the S. of the capital the land begins to be more confined, and the rivers become of course more inconsiderable. Yet the Zacatula approaches in length to the two latter; and the Yopez, which also joins the Pacific, deserves mention. On the other side the Alvarado, with the numerous divisions of its mouth, is a river of considerable importance. Alcedo informs us, that it springs from two fountains, one in the mountains of Zongolica, the other in those of Misteca, which join near Cuyotepec, and being enlarged by other rivers, it becomes a formidable stream, and joins the sea at the bar called after its name. The river Grijalva, so called from the name of the first discoverer, pervades the province of Tabasco. The Belleze of Yucatan was well known to the English baymen or cutters of logwood. In that part of Honduras called the Musquito shore, the river called Yare is full of cataracts; it is called by the Spaniards the river Vanker. The river of St. Juan is remarkable for the proposed communication between the two seas, while others prefer the river Chagre, in the province of Panama, South America. This grand scheme shall be instantly considered in describing the lake of Nicaragua,



Before leaving this subject, regret may be expressed at the deficiencies of Mexican geography, the best maps being very imperfect in the delineation of rivers and mountains; and even the manuscript map by Humboldt, which the author saw at Paris, appeared little worthy of a geologist in this important respect.

Even Humboldt's publication is rather deficient in the account of the rivers in New Spain, a defect which I observed in the original drawing of his map. The following account \* is little satisfactory.

"Among the small number of rivers which exist in the southern part of New Spain, the only ones which may in time become interesting for internal commerce, are: 1. Rio Guafacualco and that of Alvarado, both to the south of Vera Cruz, and well adapted to facilitate the communications with the kingdom of Guatemala; 2. Rio de Motezuma, which brings the waters of the lakes and the valley of Tenochtitlan to Rio de Panuco, and by means of which, forgetting that Mexico is elevated 2277 yards above the level of the sea, they have planned a navigation from the capital to the western shore; 3. Rio de Zacatula; 4. The great river of Santiago, which grows from the junction of the rivers Lerma and las Lajas, and which might convey the corn of Salamanca, Zelaya, and perhaps of all the intendancy of Guadalupe, to the port of San Blas, on the shores of the Pacific Ocean."

**LAKES.]** The chief lake in Spanish North America, so far as yet explored, is that of Nicaragua, which is about 170 British miles in length, N. W. to S. E. and about half that breadth. This grand lake is situated in the province of the same name, towards the south of the isthmus, and has a great outlet, the river of St. Juan, to the gulf of Mexico; while a smaller stream is by some supposed to flow into the Pacific †. In the hands of an enterprising people this lake would supply the long wished-for passage from the Atlantic into the Pacific, and in the most direct course that could be desired. Nature has already supplied half the means, and it is probable that a complete passage might have been opened, at half the expence wasted in fruitless expeditions to discover such a passage by the north-west or the north-east. This speculation must depend on circumstances; but if a passage were once opened, the force of the ocean would probably enlarge it; and a tribute at this new found would be a considerable source of revenue.

In the province of Yucatan there are many considerable lakes, well known to the cutters of logwood; and still ascending towards the north, that of Mexico is the first that deserves attention. The conjunct lakes of Tezcuco and Chalco are found to be about thirty British miles in length, while that of Tezcuco might be about fifteen miles in breadth; but now that the latter is partly drained, so as to be at the distance of a league from the city, it is probably about twelve miles in breadth. This lake is not only celebrated in history, as originally containing the city of Mexico, rising amid the waters like another Venice, and accessible by canals on the west side, but is remarkable for the qualities of the waters, partly fresh and partly saline. The Chalco, or fresh water lake on the south, appears to flow by a narrow channel into the salt lake of Tezcuco; but Mr. Humboldt's map of the environs of Mexico

\* P. 44.

† This last seems doubtful, or perhaps only exists during the inundations. Mr. Edwards, Hist. W. Ind. i. 18. quotes Dr. Dancer's History of the expedition from Jamaica to Fort Juan, on the lake of Nicaragua, 1780. This was printed in Jamaica, and is very rare in England. A copy has however been procured, but it throws little light on geography, treating solely of the diseases.

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‡ Alcedo de vera.

will, when published, explain this interesting part of topography\*. There are three or four other small lakes, at the distance of about thirty miles from the capital, one of which gives source to the river Panuco, or rather Tampico, which falls into the gulf of Mexico, while another is the fountain of the river Barnaja, as already mentioned.

In the province of Mechoacan there are two considerable lakes, one of which gave name to the province implying *the fishery*, as it used anciently to supply the capital. This lake, as already mentioned, is on the north of Palquaro, the capital of the province, while Valladolid, or Mechoacan, has only the bishopric; and according to Alcedo, is about twelve leagues in circumference, probably about forty English miles, perhaps equalling that of Tezcucuo, though represented in our maps as of far inferior size. The fish is still exquisite; and many Indians dwell in picturesque islets, occupied in fishing, or bringing to the capital in canoes, fish, fruits, flowers, and pot herbs.

To the west, in the province of New Galicia, is a yet more important lake, that of Chapala, according to Alcedo, called also the sea of Chapala, on account of its extent. It is greatly navigated, and is full of fish, a valuable article of trade to the vicinity.

The lake of Parras, or of St. Pedro, which receives the large river Nafas, is little known; but it is probably of far greater extent than that assigned in the maps. To the west is another large lake, which receives two rivers, one of them passing by Durango, but so imperfect is the geography, that the name is unknown. The latter lake, in the midst of silver mines, might be named that of Cuencami, from the nearest station. There are also numerous lakes in the province called New Leon.

In the province of Texas there is, according to the account of Alcedo, a large lake of fresh water, called that of St. Ann, perhaps that of Adayes, which is at least equally unknown in the maps. The lake of Adayes is so large as to be celebrated among the savages, being about five leagues in diameter. The splendid rock in the middle has already been described, in speaking of the station of Adayes.

It must not be omitted, that the western coasts of the gulf of Mexico abound with numerous long lagoons, divided from the sea by sandy banks or long reefs, so as perfectly to resemble the *baie* on the Prussian shore of the Baltic: a coincidence probably owing to the similar operation of currents †.

MOUNTAINS.] The chief chain of mountains in Spanish North America is that of Topia, which, commencing in the neighbourhood of Guadalaxara, extends north to New Mexico, a distance of one hundred and fifty leagues, or according to our maps, more than seven hundred British miles; while the breadth of all the ridges is, by the same authority, sometimes forty leagues, or one hundred and sixty miles ‡. This

\* The lake of Tezcucuo, or Mexico, according to Mr. Humboldt, is six thousand nine hundred and sixty feet above the level of the sea; and only contains two kinds of fish, one of which the *axolotl* belongs to the class of Sirenes and Protées, and is of extraordinary organization.

† "The chief lakes of New Spain are, that of Chapala in New Galicia, occupying a space of nearly 160 square leagues, being twice as large as the lake of Constance; the lakes of the valley of Mexico, which fill a quarter of the surface of that valley, the lake of Palquaro in the intendancy of Valladolid; one of the most picturesque situations I know in the two continents; the lake of Mexitlan, and that of Parras, in New Biscay." Humb. 44.

‡ Alcedo *in voca.*

chain being computed from Guadalaxara, must of course be towards the west of the viceroyalty. It is of such a height as to be comparable with the Andes of Peru, and abounds with precipices of the most profound and terrible aspect. It is almost universally clothed with pines of extraordinary size and height, and so thick as to exclude the rays of the sun. On the summit the cold is intense; but the temperature of the sides varies according to climate and exposure. It gives birth to many rivers, some flowing into the Atlantic, others to the Pacific, and subject to inundations on the melting of the snows, which are of great depth. The rains are continual from June to September, and the rivers become terrible, inundating the country to the distance of two or three leagues, while the mosquitoes become intolerable. Besides pines there are various trees, and the wild fruit sustains numerous birds of the most variegated and beautiful appearance. Other birds, called carpenters, make holes in the pines with surprising art, to conceal their food, and preserve it from putrefaction. There is also abundance of what our author calls *pavas*, or pea-hens, but the peacock seems a bird peculiar to Asia; and he evidently means the turkey, sometimes called by the same name in Spanish. His royal eagle is probably a bird of great size. Among the quadrupeds he enumerates bears, lions, and tigers; that is, the American animals which have been so named. The trees are also peopled with squirrels of various kinds, while the monkey loves a more southern climate. This noble chain is prolific in silver, yielding about a mark for each quintal of earth, which has tempted the Spaniards to explore those inaccessible recesses of nature, which defy all exaggeration. This ridge received its appellation from a savage tribe, which was converted by the Jesuits in 1590; but the mines have been mostly abandoned, on account of their great distance from any capital. The ridge of Topia is also called the *Sierre Madre*, or mother chain, and embraces the singular province of Nayarit, which remained pagan till 1718, as already mentioned. Towards the north the extent of the Sierra Madre, or chain of Topia, has not been precisely determined; but the Moquis, on the west of Santa Fé, and under the same parallel, are positively classed among its inhabitants\*; and it probably forms one chain with that of Nabajo, and the Sierra Azul, or Blue Ridge of Alzate, and the Stony Mountains of N. W. America, sending off a branch called *gemes* on the west of New Mexico, while on the east of that province is the inferior ridge of Nambí†. In the viceroyalty the general distance of the Topian chain from the western shore is about one hundred and forty British miles, but in some parts not above half that space.

As this grand ridge, by the account of all the Spanish authors, begins in the neighbourhood of Guadalaxara, it is clear that it must not be confounded with the grand ridge of the Andes, an error of not a few theoretical geologists: nor can the Peruvian chain be properly traced into North America, especially beyond the lake of Nicaragua, where the ridges rather run E. and W.

In his laborious research after the sources of the Red River, Captain Pike discovered a very remarkable mountain, which he thus describes:

"The perpendicular height of the mountain from the level of the

\* Estalla, xvii. 120.

† Various parts of this last chain are by Alzate called the mountains of Sumas (on the Rio de Norte), Organos, St. Christoval, Abo, Chimayon, Taos, all S. to N.

Prairie

Prairie was 10,500 feet from the level of the sea, 18,581 feet, falling indeed it was so for hundreds of miles by the Spaniards N. W. In our fight (except what was in January."

On the east the table land, the table land seems to include the whole of the river, the Bravos, and other countries. The appellation, has been informs us that all the mountains, running from the Atlantic, is divided into the oriental chain and Texas; not to be confounded with the co. In the middle of New Biscay, as far as the garrison of New Mexico; but itself. He adds that the mountains of Culiacan, Colima, Pimeria, so called confirming the idea of the whole of Guadalaxara in the vicinity of Mexico, if either of the two be the oriental. He to the E.N.E. of the eastern wall of that it passes still far canoes, while it is mentioned in the western

\* Estalla, xvii. 120.

† So obscure is the name concerning the mountains of the gulf of Mexico, 12-pul 19° 23'; and between the mountain of Orizaba S.W. of the town of Xalapa with perpetual snow, within south-east of the village of the whole viceroyalty leagues, being almost equal to the port of Vera Cruz covered with pines and lakes. Mr. Arrowsmith mistakes; but is on an error. He says, that the ridge of the viceroyalty, and covers geographical miles to the

Prairie was 10,581 feet; and admitting that the Prairie was 8000 feet from the level of the sea, it would make the elevation of this peak 18,581 feet, falling short of that of Chimborazo only 1701 feet. Indeed it was so remarkable as to be known to all the savage nations, for hundreds of miles round, and to be spoken of with admiration by the Spaniards of New Mexico, and was the bounds of their travels N.W. In our wandering in the mountains it was never out of our sight (except when in a valley) from the 14th November to the 27th January."

On the east there is also a considerable chain, supporting an intermediate table land, on which are various rivers, terminating in lakes. This table land seems to proceed from the neighbourhood of the capital, and to include the whole of New Mexico, though pervaded by a powerful river, the Bravo, as not unexampled in the table lands of Hindostan, and other countries. But this eastern chain, not having a general appellation, has been more laxly treated by the Spanish authors. Estalla informs us that all the extensive territory contained between the Pacific and Atlantic, is divided into three parts, formed by two principal chains of mountains, running from the S. E. to the N. W. \*. On the E. of the oriental chain are the provinces of New Leon, Santander, Coaguila, and Texas; not to mention more southern districts on the gulf of Mexico. In the middle division, between the chains, are various provinces of New Biscay, as Tepeguana, Taramara, Topia, and Batopilas, as far as the garrison of the *Paso del Norte*, which stands in the fourth of New Mexico; but he might, it is believed, have added that country itself. He adds that, on the west of the Topian chain, are the provinces of Culiacan, Cinaloa, Ostimuri, and Sonora, with upper and lower Pimeria, so called from the different elevation of the territory, thus confirming the idea that the western chain terminates in the neighbourhood of Guadalajara. Hence it appears that the oriental ridge begins in the vicinity of Mexico, further to the south than that of Topia; and if either of the two chains could be connected with the Andes it must be the oriental. Estalla says that the town of Tezcucó is seven leagues to the E.N.E. of Mexico, at the foot of the chain, which serves as the eastern wall of the valley of Tenoxtitlan; and it may be concluded that it passes still further to the south, including Orizava and other volcanoes, while it may be esteemed a singularity that no volcanoes are mentioned in the western chain †. At the distance of nine or ten leagues from

\* Estalla, xxvii. 120.

† So obscure is the geography of New Spain, that no small confusion prevails even concerning the mountains in the neighbourhood of the capital. The Spanish chart of the gulf of Mexico, re-published by the French marine, 1801, gives the position of Mexico 19° 23'; and between the capital and Vera Cruz, a little to the south of the direct line, the mountain of Orizava; whilst somewhat to the north is the mountain of Perote, on the S.W. of the town of Xalapa. This mountain of Perote is described by Estalla as covered with perpetual snow, while on the side there is a strong fortress. Alcedo says, that to the south-east of the village of Perote is the mountain of the same name, one of the highest of the whole viceroyalty, and discoverable at sea at the distance of more than twenty leagues, being almost equal in height with Orizava, while both serve as land marks to point out the port of Vera Cruz. He adds, that this ridge extends more than six leagues N. to S. covered with pines which supply Vera Cruz with pitch, and full of precipices, rivulets, and lakes. Mr. Arrowsmith's late map, from the want of materials, presents not a few mistakes; but is on an excellent scale, and in many respects is worthy of its author: Alcedo says, that the ridge of Tlascala pervades that province, being one of the highest of the viceroyalty, and covered with perpetual snow. Alzate indicates a volcano about sixty geographical miles to the west of Orizava, near Totolapa, where D'Anville places the volcano

from Vera Cruz, M. Thierry found himself in a plain, with the mountains of Alvarado S. Orizava W. and the Sierras Leones N.W. forming a natural barrier of one hundred and fifty leagues\*; and the eastern ridge seems, by his account, to form a barrier of the vale of Mexico; nay, may perhaps be traced as far as Oaxaca, which he describes as situated on the skirts of a branch of the North-eastern mountains.

This chain seems to be the same which is called the grand Sierra of Tamalipan by Alcedo, in his description of New Leon, and a branch of which is called the Eastern Tamalipa by Alzate. This last branch extends from the deserts of Jaumabe to the eastern coast of the province of Santander, where it is marked on the Spanish chart of the gulf of Mexico by the names of various peaks; while the mountain of Orcafitas, visible at sea, though at the distance of one hundred and sixty miles inland, must nearly equal Orizava in height, and appears to belong to the same branch of the grand ridge of Tamalipa †.

The mountain called Nevado of Toluca, Humboldt estimates at 2370 toises, or 14,220 feet, and he adds that no mountain of the Intendency of Mexico is equal in height to Mont Blanc.

In the kingdom of Guatemala few names of ridges of mountains have been given, the volcanoes having attracted the chief attention. In the district of Sonsonate the great chain of Apantea runs many leagues east and west ‡. The names of the mountains in the other provinces have been left in oblivion, except that of Canatagua, running N. and S. and dividing Veragua from Panama, North from South America; that of Urraca, and a few others in the maps of Lopez §. If there were a capital ridge passing directly from the Andes, it is impossible that it could have escaped the observation of the Spanish authors, or not have been known by general appellation; but by the map of Lacruz, it appears that the Andes terminate at Darien, where the land, instead of running north, in their constant direction, bends W. and even S.W. through Panama; and it seems an idle theory to connect the mountains of Guatemala, which run in various directions, with those of South America, whose direction is so uniform.

The composition of the mountains of New Spain is little known, but according to M. Humboldt, and the specimens which I have seen, they are mostly of argillaceous schistus, a substance generally prolific of metals.

Concerning this interesting subject further particulars may now be added from Humboldt's recent publication ||. "Farther north of the parallel of 19°, near the celebrated mines of Zimapan and the Doctor, in the Intendency of Mexico, the Cordillera takes the name of Sierra Madre: again retiring from the eastern part of the kingdom, it

cano of Popocatepec, now extinct. It is to be hoped that the maps of M. Humboldt will clear up many difficulties.

At el vole. Oaxaca says, that province is divided from Tlascala by a ridge called Cocol, abundant in gold, silver, crystal, vitriol, and precious stones.

\* Thierry, ii. 49.

† Estalla, in his description of New Leon, xxvii. 118, says, that it is divided by many branches of the chief chain, which passing from Cuaguilla, incloses all the west and south of New Leon. If this description be exact, it would seem that the eastern chain bends in a semicircular form, including the eastern branch of Tamalipa.

‡ Estalla, xxvii. 108.

§ On the north of the province of St. Salvador, Guatemala, is the rugged ridge de los Chontales. Estalla, xxvii. 177.

|| Humboldt, p. 38.

stretches N. W. to Guanajuato. To of Mexico, the S then soon divides toward Charcas and kingdom of Leon tendancy of Guada through Culiacan a banks of the Rio C acquires considerable California, where it for considerable w Madre, which may Andes, occupies the may be followed b Sierra de los Mimbr From thence it cro (of Cranes?) and S under the 40° of Escalante and Font. near those of Rio d which divides the ri and the continuation amined under the 50°

Of the mountains smoke (Puebla), is c 16,600 feet, in height woman, 2455 toises. Orizaba, 2717 toises, chest, so called from a of Perote, is 2089 to

He says that there Panama to Bering's S height; namely, the rarely occur near the of the latter †? Th coming to anchor at is about 400 yards high

Of six colossal mountain peak of Orizaba, the Iztaccihuatl, and the snow; while the other Colima, are free from north and south of this in which is also the ne which present the phe

The mountains are indurated clay, which ranked among the volcanoes of Spain there are only Popocatepetl, and the

\* Or Tarascona.

† Humboldt, 88. 208. have no relation with the A

stretches



stretches N. W. towards the towns of San Miguel el Grande, and Guanajuato. To the north of this last town, considered as the Potosí of Mexico, the Sierra Madre assumes an extraordinary breadth. It then soon divides into three branches, the eastermost of which runs toward Charcas and the Real de Catorce, and loses itself in the new kingdom of Leon. The western branch occupies a part of the Intendancy of Guadalajara. From Bolanos it sinks rapidly, and stretches through Culiacan and Arispe, in the Intendancy of Sonora, to the banks of the Rio Gila. Under the  $30^{\circ}$  of latitude, it however again acquires considerable elevation in Tarahumara \*, near the gulf of California, where it forms the mountains of Pimeria Alta, celebrated for considerable washings of gold. The third branch of the Sierra Madre, which may be considered as the central chain of the *Mexican Andes*, occupies the whole space of the Intendancy of Zacatecas. It may be followed by Durango and Parral (in New Biscay) to the *Sierra de los Mimbres* (situated to the W. of the *Rio grande del Norte*). From thence it crosses New Mexico, and joins the mountains Grue (of Cranes?) and Sierra Verde. This mountainous country, situated under the  $40^{\circ}$  of latitude, was explored in 1777 by the fathers Escalante and Font. It gives rise to the Rio Gila, whose sources are near those of Rio del Norte. It is the ridge of this central branch which divides the rivers between the Pacific Ocean, and the Atlantic, and the continuation of which Fidler and the intrepid Mackenzie examined under the  $50^{\circ}$  and  $55^{\circ}$  of northern latitude."

Of the mountains of New Spain, the Popocatepetl, or *mountain of smoke* (Puebla), is computed by Humboldt to be 2271 toises, about 16,600 feet, in height above the sea. The Iztaccihuatl, or the *white woman*, 2455 toises. The Citlaltepetl (*starry mountain*) or pike of Orizaba, 2717 toises, and Nauhcanpatepetl, or *mountain of the square chest*, so called from a porphyritic rock on the summit, now the Coffer of Perote, is 2089 toises.

He says that there is only one mountain in North America, from Panama to Bering's Strait, which exceeds the volcano of Puebla in height; namely, that of St. Elias. But as such high mountains rarely occur near the poles, is there not reason to doubt the calculations of the latter †? The Coffer of Perote serves as a signal to navigators coming to anchor at Vera Cruz; and by Humboldt's measurement, is about 400 yards higher than the pike of Teneriffe.

Of six colossal mountains on nearly the same parallel, four only, the peak of Orizaba, the Popocatepetl (or volcano of Puebla), the Iztaccihuatl, and the Nevado de Toluca, are perpetually covered with snow; while the other two, the Cofre de Perote and the volcano of Colima, are free from it, for the greater part of the year. To the north and south of this *parallel of great heights* beyond this singular zone, in which is also the new volcano of Jorullo, there are no other mountains which present the phenomenon of perpetual snow.

The mountains are generally composed of a porous amygdalite, and indurated clay, which a mixture of some crystals of felspar, has ranked among the vague porphyries of the Werneriana. In all New Spain there are only five burning volcanoes, that of Orizaba, the Popocatepetl, and the mountains of Tustla, Jorullo, and Colima.

\* Of Tarahumara.

† Humboldt, 38. 238. 278. He allows, p. 31, that the mountains of New Spain have no relation with the Andes, in respect to the direction of the chains.



Humboldt is well known to be rather a dashing adventurer, in almost all the sciences, than an adept in any \*. In geology his gross errors were confuted by Dolomieu; those in chemistry, equally gross, by Vauquelin and Klaproth. His mineralogic vocabulary is singular, and not a little confused. His *porous amygdaloid*, and *porphyry void of quartz*, present no ideas. The following are the most intelligible articles of information on the construction of the mountains of New Spain.

The high plain which forms the centre of the Intendancy of Zacatecas is chiefly composed of the rock which Werner calls syenite, being in fact a granite in which hornblende takes the place of mica. This is surmounted by primitive slate and chlorite slate, which form the base of some mountains of *grauwack*, and true porphyry, with a base of trap.

About Encero (Int. Vera Cruz) the secondary formations rest on porphyry; and near Acazonica there are quarries of a beautiful laminar gypsum. At Cadereita are beautiful quarries of porphyry, with a base of clay, the *thonporphyr* of the Germans.

The mountains of Oaxaca contrast with those of the plain of Mexico, presenting only granite and gneiss †.

**VOLCANOES.]** The volcanoes, in the singular territory of New Spain, instead of being rare phenomena, as in Europe, are very numerous. In the maps twenty-one may be counted from that of Soconusco in the N. to that of Varu in the south. They are all on the south-western coast, and after a considerable interval they again emerge towards the eastern coast, in the vicinity of Mexico. Concerning these numerous volcanoes it is to be hoped that M. Humboldt will give us interesting information. He has already informed us, that only a small number, and those little elevated, eject lava ‡; but when he adds, that the Andes extend from the strait of Magellan to the most northern parts of America, opposite to Asia, he evinces little acquaintance with geography, a defect too visible in the writings of many celebrated geologists; and there are certainly more than fifty active volcanoes in South America alone. He saw, at the volcano of Jorullo, or Xorullo, a basaltic cone, which appeared above ground, on the 15th September 1759, and which is at this day two hundred and forty-nine fathoms, or one thousand four hundred and ninety-four feet above the surrounding plain—a sublime and striking object! This volcano of Jorullo is in the province of Mechoacan, at the distance of eight leagues from Pasquaro, the capital, towards the S.W. the volcano of Colima being in the same direction, but at a greater distance. It first appeared on Michaelmas day 1759, with singular circumstances §. A delicious and fertile vale, eight leagues in length N. to S. and three in breadth, was called *Xorullo* by the Indians, a word in their language signifying *paradise*; there was in it an opulent farm, belonging to Don Joseph Pimentel, which produced the best sugar of the whole viceroyalty, when by the sudden eruption of a volcano, the whole was not only ruined, but the valley assumed an infernal aspect, blackened with perpetual smoke, covered with deformed rocks and ashes, the trees consumed, the earth full of deep cracks and openings, and now forming a hill of considerable height, crowned with a volcano. Along its side passes a rivulet, which formerly fertilized the

\* His character of Alzate, p. 122, might be most justly applied to himself—*Observateur peu exact, d'une activité souvent impétueuse, il se livra à trop d'objets à la fois.*

† Humb. 260. 278. 302, 307.

‡ Alcedo, Etalia.

§ Recueil des Obs. Zool. Paris, 1805, 4to. part 1,

valley, but is not it; an inconvenience this quarter. I heard horrible filled the inhab the ground, if to persuade them though at the d earthquakes beg obstruction, and

Such is the de ing event. M. cano, resembling at one end an act

The volcano royalty. D'Au be the highest in tal, a distance of of Mexico, not 1545, and contin no appearance of perpetual snow, t pines, and other t cans Popocatepec at about thirty m former is said to tions. Both are volcanoes in this s ble for height, as and others.

**FORESTS.]** T may be judged i mountains, which ular account of d only small portion

Nor are deserts plains of the weste as the sandy desar tracts of many lea the fanciful forms

\* Clavigero, i. 14, a village of Guacana burd till, in 1766, the circu 150 miles; and in Vall obliged to sweep their y volcano of Jorullo preo issues to the height of emitted a vast quantity rocks.—The volcano of It is only occasionally co

† D'Aueroche, Cali land of the kingdom, an Some think it higher tha pocatepec, and says the of the wilderness, threa and his whole work very copy of Orizava has be

valley, but is now so hot as to burn men or animals who attempt to pass it; an inconvenience, as it is in the direct road to the copper mines in this quarter. Six months before this catastrophe, there were constantly heard horrible subterranean noises, and earthquakes were felt, which filled the inhabitants with consternation; and they would have quitted the ground, if the landlord had not employed a jesuit of some influence to persuade them to remain. The eruptions of the volcano of Colima, though at the distance of seventy leagues, having ceased as soon as the earthquakes began, it was conceived that the matter had met with some obstruction, and had recoiled to this spot.

Such is the description given by the Spanish authors of this surprising event. M. Humboldt shewed at Paris a drawing of the new volcano, resembling an elevated terrace, with many spiracles of smoke, and at one end an active volcano\*.

The volcano of Orizava is regarded as the most majestic in the viceroyalty. D'Aueroche observes, that the mountain Orizava is said to be the highest in Mexico; and its snowy summit is visible from the capital, a distance of sixty miles. This celebrated mountain is to the S. E. of Mexico, not far from the road to Vera Cruz; it became volcanic in 1545, and continued for twenty years, since which time there has been no appearance of inflammation. Though the summit is clothed with perpetual snow, the sides are adorned with beautiful forests of cedars, pines, and other trees†. The detached mountains, called by the Mexicans Popocatepec and Iztaccihuatl, are also to the S.E. of the capital, at about thirty miles distance, both being volcanic. The crater of the former is said to be half a mile wide, and celebrated for ancient eruptions. Both are covered with perpetual snow. There are many other volcanoes in this singular province, while other ridges are only remarkable for height, as the mountain of Tlascala, the Tentzon, Toloccam, and others.

FORESTS.] The forests of New Spain are extremely numerous, as may be judged in some degree from the preceding accounts of the mountains, which are often clothed with primeval trees; and no particular account of distinct forests can be expected, in a country of which only small portions have been cleared.

Nor are deserts wanting in New Mexico and on the E. "These vast plains of the western hemisphere may become in time equally celebrated as the sandy deserts of Africa, for I saw in my route in various places, tracts of many leagues where the wind had thrown up the sand, in all the fanciful forms of the ocean's rolling waves, and on which not a

\* Clavigero, i. 14, alluding to this event, mentions, that in 1759 a small hill near the village of Guacana burst with furious volcanic shocks, and emitted fire and burning rocks till, in 1766, the circumference was six miles. The ashes were borne to the distance of 150 miles; and in Valladolid, or Mechoacan, sixty miles distance, the inhabitants were obliged to sweep their yards two or three times in a day.—Humboldt says, p. 257, that the volcano of Jorullo presents thousands of little cones, called *fumaroles*, from which smoke issues to the height of 10 or 15 yards: the chief volcano is constantly active, and has emitted a vast quantity of drossy and basaltic lavas, which contain fragments of primitive rocks.—The volcano of Colima is seen in all its grandeur from the little village of that name. It is only occasionally covered with snow. Ib. 257.

† D'Aueroche, California, p. 87. Clavigero, i. 13, who adds, that it is the 'highest land of the kingdom, and its conic form observed at sea at the distance of fifty leagues. Some think it higher than the peak of Teneriffe. Gage, p. 69, gives an account of Popocatepec, and says the volcanoes extend as far south as Leon, in Nicaragua. His account of the wilderness, three leagues N.W. (should be S.W.) from Mexico, p. 70, is curious, and his whole work very interesting. It is said that he often copies Gomara. History's account of Orizava has been already mentioned.

speck of vegetation existed. But from these immense prairies may arise one great advantage to the United States, viz. the restriction of our population to some certain limits, and thereby a continuation of the union\*."

**BOTANY.]** One of the numerous desiderata of topographical botany is a scientific account of the native plants that grow in the Spanish North American territory west of the Mississippi. We know in general that it is extremely rich in its vegetable productions, but are obliged to infer the particulars from the articles of commercial export from the Mexican harbours, and the short list given by Cavanilles of the Mexican plants cultivated in Spain.

The plants that characterize the N. American possessions of the Spanish crown are cactus cochenillifer, a species of the Indian fig, upon which the cochineal insect more particularly delights to feed: convolvulus jalapa, the true jalap, a native of the province of Zalappa, in the viceroyalty of Mexico; copaifera officinalis and toluifera balsamum, two trees that yield the fragrant gum resins, known in commerce by the names of balsam of Capivi and of Tolu. The shores of the bays of Honduras and Campechy have been celebrated from their very first discovery for their immense forests of mahogany and logwood; and the neighbourhood of Guatemala is distinguished for its indigo. The guayacum, the sassafras and tamarind, the cocoa nut palm, the chocolate nut tree, and a variety of others, which are better known as natives of the West Indian islands, enrich and adorn those fertile provinces. The pine apple grows wild in the woods, and the shallow rocky soils are inhabited by the various species of aloe and euphorbia. A few Mexican plants have been introduced into European gardens, among which may be noticed the salvia fulgens, glowing with its crimson blossoms, the splendid dahlia, the elegant striated sisyrinchium, the gigantic helianthus, and the delicate mentzelia.

To this unhappily brief account some particulars may be added from Thiery, and the recent Spanish writers. In the neighbourhood of Vera Cruz, Thiery found the cocoa tree, a bombax with red flowers, melias and plumerias. Further inland he met with a rare species of wild fig, and groves of sensitive plants and ceibas. The species of cacti, or plants resembling Indian figs, are infinite; and some have been mentioned in delineating the face of the country. Yuccas, singular ferns, an arum of great beauty, and so large that the root weighs ten pounds, the superb lily, a violet with a bulbous root, thistles equal in size to artichokes, bulbous oxalis, junipers, an oak producing monstrous acorns, lycopersica, various geraniums, and heliotropes, that useful aloe called the agave Americana, or maguey. In the plain of Tehuacan he found chiefly cacti, and different kinds of sensitive plants, the soil being sometimes only an inch thick, upon a bottom of silvery talc, while the mountains produce various pines, oaks, &c. Further to the south were bignonias, with yellow flowers, between sixty and one hundred feet in height, while the sugar canes attain a prodigious size, different sorts of crescentia, annonas, beautiful solanias, asclepias with yellow flowers, resembling the yellow jasmine. At Cues the precious nopal begins to appear, being cultivated in gardens, where are also found mirafols, and a beautiful sage with scarlet flowers. Vanilla grows upon the trees, like our mistletoe. New syringas and panceratias may also be added to the list †.

Estalla

\* Pilo's Travels.

† The curious botanical reader will find in the last volume of the dictionary of Alcedo, Madrid,

Estalla prefers to the market of Mexico exclusive of the I a league from Mexico granates, but if n brated nopal, the Estalla and Alced length by Thiery, the cultivated and different species. tions the tree which gum copal, which, ral amber, the mast blood. While the they are said to grow so large, that each this author, the root of all specifics again vered in New Spain in the world, a defect 1805. The flower description is given America must be ef near the village of S hill, is of a regular holm-oak, and resist which it is exposed. flower, in the shape has been derived.

species, which at le seen in the botanical

The same author leagues to the south abichete, measured of Mexico and Gua hundred persons ente filled, because a part of the tree are want height from the root palms of Spain †; and fifty-seven palme teen; at the height of the outside, one hund New Spain, and ge Oaxaca forty yards i soil also appear in an conquest, and which serence.

**ZOOLOGY.]** The

Madrid, 1789, 4to. an alp the botanied labours of l will supply many deficiencies

\* Estalla, xcv. 314.

† The Spanish palm litt

Eftalla prefers the chirimoya to the pine apple; and observes, that in the market of Mexico there are daily sold more than sixty kinds of fruit, exclusive of the European\*. Olives thrive in the archbishop's garden, a league from Mexico; and the province of Tehuacan abounds in pomegranates, but if not grafted, the size becomes diminutive. The celebrated nopal, the chosen haunt of the cochineal insect, is described by Eftalla and Alcedo; and the manner of culture is illustrated at great length by Thiery, in whose work will be found exact representations of the cultivated and wild cochineal, which appear however to be entirely different species. Among the productions of Vera Paz, Eftalla mentions the tree which yields *liquid amber*, and others of various balsams, gum copal, which, according to some, is the original substance of mineral amber, the mastic tree, and that which yields the gum called dragon's blood. While the reeds of Florida attain the height of thirty feet, here they are said to grow to the incredible height of one hundred feet, and so large, that each joint will contain an aroba of water. According to this author, the root of the maguey has been found the most powerful of all specifics against the venereal disease. Of a singular tree discovered in New Spain, and believed to be the only one of the kind existing in the world, a description and coloured plate were published at Paris 1805. The flower is in the form of the human hand. The following description is given by Eftalla: "Among the rare trees of this part of America must be especially placed that called *de las manitas*. It grows near the village of San Juan, in the district of Toluca, on the side of a hill, is of a regular form, the leaves somewhat resembling those of the holm-oak, and resisting the rigour of winter and the northern blast to which it is exposed. Once in two years it produces a most singular flower, in the shape of a hand, and of a flesh colour, whence the name has been derived. Several efforts were made to propagate this unique species, which at length have happily succeeded, and young plants are seen in the botanical garden of Mexico."

The same author informs us, that in the town of Atrisco, thirty leagues to the south-east of Mexico, there is a celebrated tree called *abuehuete*, measured in October 1767, in the presence of the archbishops of Mexico and Guatimala, and the bishop of Puebla. More than one hundred persons entered the hollow trunk, which was yet far from being filled, because a part lower than the rest was full of water. Two-thirds of the tree are wanting, having been consumed by lightning; but the height from the root to where it was struck is one hundred and seventy palms of Spain †; the outer circumference at the ground one hundred and fifty-seven palms; the concave at the bottom one hundred and fourteen; at the height of three yards sixty-six; and, at the same height on the outside, one hundred and nine palms ‡. This species is common in New Spain, and generally very large: there is one in the province of Oaxaca forty yards in circumference. The productive powers of the soil also appear in an olive tree, which must have been planted since the conquest, and which is twenty-one yards and three quarters in circumference.

**ZOOLOGY.]** The zoology has been ably illustrated by Hernandez,

Madrid, 1789, 4to. an alphabetical description of the most useful plants of America; and the botanist's labours of Humboldt and Bonpland his companion, which begin to appear, will supply many deficiencies.

\* Eftalla, xvi. 318.

† The Spanish palm little exceeds nine inches.

‡ Eftalla, xvii. 86. 257.

styled the Pliny of New Spain, who flourished under Philip II. towards the close of the sixteenth century; but his works remained in manuscript till an extract was published in the middle of the succeeding century. The variety of animals is great, though it do not equal that of the plants and minerals. Among the most singular animals is the Mexican or hunchback dog, a kind of porcupine; and some others described by several naturalists. What is called the tiger seems a species of panther, and sometimes grows to a great size, though Buffon, ever fond of theory, assert that American animals are generally small. In South America it attains the length of a large ox, as appears from the testimony of Dobrizhoffer; but Clavigero says that the largest quadruped is the danta, anta, or tapir, about the size of a middling mule, being amphibious. This animal seems to be different from the lanta or danta of Africa, described by Leo; but the identity of the name tends to corroborate the idea that America was peopled from Africa. The bison is found in New Mexico; and the musk cattle may perhaps extend as far. In California there are said to be wild sheep. The birds of New Spain are particularly numerous and curious\*.

To these brief hints some others may be added from the recent descriptions. Even those native animals which seem to approximate the most to the European, are yet different; but the partridges in the desert of the Carmelites, five leagues from Mexico, were brought from Spain, as was the rabbit, now general. What is called a lion rather resembles a cat in figure and manners. Enormous snakes are still said to attack men and animals by the breath, which may simply affect from some peculiar gas, possessing intoxicating and stupifying power. Tame snakes are also kept in the fields of maize, where they destroy rats, moles, and insects. The few fish of the lake of Mexico have already been mentioned; but the defect is supplied by numbers of a kind of wild geese, which frequent the lake, and form a great article of consumption in the city. They are often taken, as in China, by Indians, who place calabashes on their heads, and seize the bird by the feet.

The buffalo of North America is common, and valuable for its wool, skin, and flesh. In 1783 four or five were embarked at Vera Cruz, and brought to Cadiz. A female calved in Spain, but the climate of Andalusia would have been preferable to that of Aranjuez, where they died.

Horses, mules, and bees are common and cheap in New Spain. A horse commonly costs four dollars; but the horses are far from being well trained, and the cavalry is mounted on geldings. Oxen are chiefly used for the plough; but the beef is bad, and left to the poor, while the rich eat mutton and veal.

Numerous herds of wild horses abound in the W. part of Louisiana, bay, black, and grey, in fact of all colours. They are descendants of the Spanish horses, and are hunted, caught, and sometimes shot for food by the savages. Captain Pike also observed numbers of *cabris* or wild goats. Wild boars abound on the river Mariana and other places, but of a small and peculiar kind.

In the southern provinces are found armadillos, many varieties of apes, beautiful birds and insects; among the latter there is a species of ant, which elaborates a kind of honey, so abundant as to be an article of com-

\* Pennant, A. Z. i. 3. from Fernandez Nov. Hist. x. c. 80. Lockman's Travels of the Jesuits, i. 400. Du Pratt, ii. 95, gives a good account of the humming birds of Louisiana. Hernandez and Fernandez are the same name and person, as appears from Antonio's Biblioteca Hispanica.

merce. Its form is veined with, the belly swells common ant the there will be a p same taste with food and anatomi

#### MINERALOGY.

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Till within the Spain were those N. W. of Mexico at St. Luis de Pot duced soon after th name was trans

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merce. Its form, and all its habits, are those of the common ant, but it is veined with grey and black. The singularity is, that in the spring the belly swells with honey, to the size of a cherry; so that if from a common ant the belly be taken, and the other parts joined to a cherry, there will be a perfect resemblance of the insect. The honey is of the same taste with that of the bees. Observations are still wanting on their food and anatomy.

**MINERALOGY.]** The mineralogy of the Spanish empire in North America is beyond doubt the most valuable in the known world, as, in a far smaller extent, it produces far superior wealth to that of all South America. The amount of the produce has been already discussed, in treating of the revenues. Silver forms the chief product; but in some spots gold is also abundant. In his description of the province of Sonora, Alcedo informs us, that during the war with the savages, which ended in 1771, rich mines of gold and silver were discovered in various parts. Above all, in the plain of Cieneguilla\*, of the length of fourteen leagues, there were found lumps of gold so large as sometimes to weigh six pounds, at the depth of only two feet. Two thousand persons soon settled in the vicinity, and a general commandant of the province was named, it being regarded as one of the richest in the whole viceroyalty, as all the mountains abound with silver and gold. But the incursions of the enemies, the want of labourers, and the difficulty of procuring quicksilver, have concurred with the abundance of mines near the capital, as the causes why those of Sonora have been neglected.

Till within these forty or fifty years, the richest silver mines of New Spain were those of Zacatecas, about two hundred British miles to the N. W. of Mexico; but the minerals appear to have been chiefly smelted at St. Luis de Potosi, which had also rich mines in its neighbourhood, discovered soon after those of Potosi in South America, 1545, whence the name was transferred.

**GUANAJUATO.]** But the grand mines at present are at Guanajuato, considerably nearer the capital, being a distance of only one hundred British miles, while it is about one hundred and forty to the east of Guadalupe, and about fifty to the N. W. of the city of Queretaro. This celebrated mining station is on the Sierra Madre, or chain of Topia, as were the former mines of Zacatecas, that chain being perhaps the richest in the universe, even to its northern extremities in Sonora and Pimeria. The mines in the vicinity of Guanajuato produce abundance of gold, silver, and copper, and are carried to great depth, so that the expence of voiding the waters is not a little considerable. The *Real* (a general name for the royal mining stations) of St. Nicholas is three leagues to the N. while others extend four leagues to the W. The chief mines of gold and silver are the Puerta Ovejera, Mora, San Bernabé, Rosario, and Medalla, but faintly laboured by the indolence of the Indians. There are besides five mining stations within the mountains, each having

\* This plain of Cieneguilla does not appear in the maps; and Alcedo has omitted it in his alphabet. It is probably in the N. E. part of the province.

Humboldt's map places it on the N. W. lat. 30° 20'. He says, p. 296, that in the upper part of Sonora (sometimes called higher Pimeria) lumps of gold are found in abundance in the plains and ravines.

Venegas, in his history of California, English translation, London, 1759, 2 vols. 8vo. says, l. 396, that Sonora is bounded on the east by the high mountains of Tarra Humarra, some of which seem to consist of massy silver. According to the same author, p. 403, the mountains of Santa Clara (on the west of Santa Fe) are covered with pumice, or in other words, have been volcanic. He observes, li. 203, that the Apaches are mostly cavalry, and very daring in their incursions.



a church, and chaplain to administer the sacraments; there are also in the vales forty-three smelting houses, giving bread to numerous troops of workmen, who consume annually one hundred thousand loads of maize, eighteen thousand sheep, five thousand bees, and eighteen thousand loads of meal, the villages being sixteen in the township of Irapuato.\* Specimens of these mines, which M. Humboldt brought to Paris, were rather rich than beautiful, being some of the common appearances of the various ores.

Having thus briefly described the most celebrated mines of New Spain, it may be added, that all the southern and western provinces are regarded as productive of gold and silver; and in an especial manner all those to the west of the Topian chain, from Guanajuato, at its southern extremity, to Pimeria in the furthest north: and *Reals*, or mining stations, are scattered throughout its whole extent within the viceroyalty.† The great inland province of Tamaulipas also abounds in silver, the chief *Real*, or mining station, being St. Eulalia. The grand eastern ridge, or Tamalipa, is by no means so opulent; but two or three mining stations appear in the province of New Leon, which also, by the information of Alcedo, abounds in silver, or rather in lead, which is the chief object of the mines, and which produces, as usual, some silver. Towards the south Panuco, or the Guasteca of the maps, has some mines of gold, and one *Real* of silver, dependant on Zacatecas, whence it is only distant three leagues. Nor is the new province of Santander destitute of silver, according to Alcedo; but when he speaks of the ridge which gives birth to the rivers, the western province of New Leon must be implied; and it does not appear that the eastern, or maritime branch of the Tamalipa, is metallic.

Coaguilla is, by the confession of Alcedo, a desert waste, and its mineral treasures, if any exist, have not been explored. The few mines of New Mexico, by the same authority, are all of tin. California presents some appearances of minerals, but they have been little explored.

In the time of the Mississippi scheme, the seizure of the mines of St. Barbe was held forth as a capital object, and they are placed by Delisle immediately on the west of the river Magdalena, or Guadalupe. These mines do not appear to have ever existed; but, from the remarks of Estalla, it would seem that there are strong appearances of minerals

\* Alcedo.

† In Pimeria, near the *Real* of Arizona, there was discovered in a mountain such abundance of virgin silver, that some supposed it a hidden treasure. Rock salt of great purity was also found. Estalla, xxvi. 33.

Antillon, Carta, &c. Madrid, 1803, 4to. inform us, p. 41, that the stations for washing the gold, *lavaderos de oro*, abound in Sonora, and particularly in the hills near the capital station of Arispe, where are those of Bacuache, Cananea, and Penuelas, where pieces have been found of the weight of seven marks. In the same parts is the mine of St. Rosalia, which yielded gold of 17½ carats in such abundance, that the value of some loads amounted to one thousand pesos each. The mine of Bonamiri is also of gold. There are no less than thirty-seven mines of silver, in the district of Arispe, one of which yields eighteen marks from the load of mineral, probably a mule's load. In the same province, towards the gulf of California, there are several mines not far distant from the garrison of Altar, and the *Real* or royal mining station of Rosario. In upper Pimeria is the celebrated mine of Arizona, eight leagues from the village of Surie, which in 1736 yielded balls of virgin silver, to the weight of a hundred and fifty arrobas, or near forty hundred weight. On proceeding by New Biscay and New Mexico, are found the mines of Cosaguriichi, and many others, not less rich in gold and silver. In New Santander there are the mines of Iguana, not far from Laredo; and in New Leon those of St. Diego. Our author proceeds to mention the noted vale of Cieneguilla, in the province of Cinaloa; but for this remarkable fact he is contented to quote Dr. Robertson; without any reference to Alcedo, or other authorities, who place this vale in the province of Sonora.

in the province are as follow\*: proceed toward not discovered, by accident.

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\* Estalla, xxvi. 33.

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‡ Estalla, xxvii. 1.

§ Bourgoing, li. 2. dollars, piastres forte fortis. And p. 264 might have produced

in the province of Texas, a part of the ancient Louisiana. His words are as follow\*: "The minerals of New Spain seem to increase as we proceed towards the north. It is well known that the greater part is not discovered, such mines having only been wrought as were unveiled by accident. This will be evident from a letter written from the province of Texas by the auditor Don Juan de Olivan Rebollo: 'From the river, which is called de las Nueces †, distant from the garrison of Adayes about three hundred leagues, the whole country, in every direction, is full of minerals, with this circumstance, that every foot of the surface of the earth, when torried in a smith's forge, yields particles of silver; yet to this day no one attends to it, the soldiers, who might gain greatly, being occupied with other affairs.' But many mines are left undiscovered, because the northern parts are almost uninhabited, and have never been explored by intelligent men. The farms are of such an extent as to rival petty kingdoms. Many towns and villages might be built, whose traffic would lead to many discoveries, from the tropic of Cancer towards the north, while there are only a few villages maintained by the missionaries, and infested by the Chichimecos and other savages."

Pike, in his view of New Spain, says there are rich mines near the city of Monterey, whence is drawn every month bullion sufficient to load 100 mules with gold and silver. Humboldt is either very inaccurate, or has been designedly misinformed, when he asserts that the mines of Catorce are the nearest to the United States. His own map indicates others 240 geographical miles nearer, or more to the N. E. ! Pike says, that in Mapimi there are seven silver mines, and one of gold.

Having thus mentioned the chief mines of gold and silver in New Spain, and indicated the amazing opulence of the viceroyalty in these precious metals, it may be proper, before passing to the inferior metals, to consider the produce of the coinage. Some hints have already been given under the article of revenues, but a more complete explanation was reserved for the present topic. The beneficial influence of the freedom granted to commerce, which has increased the mining operations, from causes already explained, is very visible from the comparative quantities of money; for during thirteen years, from 1766 to 1778, there were coined at Mexico two hundred and three millions, eight hundred and eighty-two thousand nine hundred and forty-eight pesos, seven reals; while, during another thirteen years, from 1779 to 1791, there were coined two hundred and fifty-two millions forty-two thousand four hundred and nineteen pesos, and half a real, the difference being more than forty-eight millions ‡. It must at the same time be observed, that gold and silver are now rarely sent to Spain in bars, or ingots, nor are they consumed in plate. Before the freedom of commerce the coinage never exceeded twenty millions of pesos; and in 1793 and 1793, it annually surpassed twenty-four millions §. More stock being now employed in working the mines, they are carried to a greater depth than formerly, and operations of more difficulty are undertaken; the new works are also conducted with more regularity and intelligence.

\* Estalla, xvi. 249. \*

† This is the first great stream on the east of the Rio del Norte.

‡ Estalla, xvii. 11, and 213.

§ Bourgoing, li. 208, values the products of Peru and Mexico at twenty-two millions of dollars, *piastres fortes*, the coinage of Mexico being more than eighteen millions of *piastres fortes*. And p. 264, the mines of New Spain yielded in 1802, twenty-seven millions, and might have produced thirty millions, or near seven millions sterling.

To prevent frauds and irregularities, the royal tribunal of mines was erected in 1777, the expences being derived from a tax of eight grains on each mark of silver brought by individuals to the mint; the annual amount being about one hundred and sixty thousand pesos; from which are taken the salaries of the tribunal, and of a college of mines for the instruction of youth, while the remainder is employed for the accommodation of the miners; the tribunal having thirty-nine thousand, college twenty-five, salaries eleven, so that eighty-three remain to assist proprietors. The duties on mining utensils have been lowered, and able miners brought from Germany, to inculcate the new principles, and display improved methods and machines. As the procedure by amalgamation has become almost universal, quicksilver is an essential article; and many mines in the north have been abandoned, on account of the great difficulty and expence in procuring and transporting it through countries destitute of roads. It is also an article of monopoly to the royal treasury \*. That of Almaden, in Spain, is sold in Mexico at forty-one thousand two hundred and eleven *maravedis* each quintal, but the quantity not being sufficient, a contract has been entered into between the courts of Spain and Austria which supplies a large quantity from the mines of Idria. This is sold at sixty-three dollars, and generally produces about seven hundred thousand pesos. This monopoly of the treasury also serves as a check on the masters of mines, who are obliged to produce a corresponding weight of metal; but the quantities not being sufficient, some is brought from the mine of Guancavelica, in Peru, and some even from China. This last is dearer, but the governor of Manilla was instructed to purchase all he could procure, from the produce of fourteen thousand six hundred and sixty-two skins of beavers, sent to China upon his Majesty's account; while that of Idria sells at sixty-three pesos, the Chinese is fifty-seven, but it is of excellent quality. There are mines of quicksilver in New Spain, but they have not been sufficiently explored. A new mode of package in hogheads has been found preferable to that in chests. Salt and gunpowder, of great use in metallurgy, are also royal monopolies.

As New Spain is by far the richest mineral country in the world, and the Spaniards derive their chief supplies from this source, the reasonings of an intelligent traveller, who resided fourteen years in Spain, upon this interesting subject, may deserve particular attention †.

"It may be said to the Spaniards, 'Far from making efforts to draw from your mines all that they can produce, you ought rather to shut a part. Confine the influx of your metals into the ancient continent to the quantity necessary to replace the insensible waste, what luxury converts into utensils, and what avarice buries either in Asia or Europe. Follow the example of the Portuguese, who restrict the operations in their diamond mines, in order that the value may not be diminished; and that of the Dutch, who burn a part of their spices, that the price may be maintained. The silver of Mexico is your diamonds and your spices; if you triple the sum, your miners, whose labour might be more usefully exerted on other objects, will have more occupation, but you will not be more rich. You will only pay a triple price for the productions of foreign industry, which will always be necessary, in a greater or less degree.'

"To these specious arguments it is answered in Spain, 'We do not perceive any thing terrible in this augmentation of currency. In the

\* *Estas*, xxvii. 231.

† Bourgoing, li. 270. ed. 1803.

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first place, the duties present a clear profit to the public treasury; and while the other states of Europe are occupied with increasing their revenues, that they may support great enterprises either in peace or war, by what fatality should it happen that Spain may find causes of decline in what is thought to constitute the prosperity of other states?"

"We may say as much of our manufactures. As long as their operations shall keep pace with the exploration of our mines, our currency will be increased, both by what we employ to pay foreign industry, and with the surplus of what is furnished by Mexico and Peru. Nor do we see any thing dreadful in the prospect. We ask, on the contrary, what are the most flourishing nations. Are they not France and England, those who have by far the most abundant currency? Of what consequence is the source from whence it springs? The combined product of our mines and of our industry, it will still be useful to Spain in the hands of great capitalists, who will embellish our cities and country, will furnish funds for public establishments, and will supply the state in critical periods with loans at a lower interest than formerly. We agree, nevertheless, that the hour may come when our prosperity, carried to the utmost, will bring on our decline: this will happen when our manufactures shall become so active and complete as to render foreign industry useless. If at the same time the product of our mines tended always to increase our currency, without its finding any emanation, certainly this situation, which must however be regarded as a mere hypothesis, would have invincible inconveniences. The excessive dearth of manual labour in Spain would introduce, in spite of all opposition, the productions of foreign manufactures. The currency would escape by the wide channels thus offered; the national manufactures would languish; the workmen disappear from the want of employment: and Spain would be again abandoned to depopulation, idleness, and poverty. But the circumstances which might realize this prospect are very remote; and in waiting till a more imminent danger may condemn to inactivity either our manufactures, or our mines, we think that we may continue to draw from that double source our future prosperity."

Besides gold and silver, many other metals are found in the viceroyalty. Not far from the capital are mines of tin, of which M. Humboldt brought specimens to Paris, mostly chrysolised, and resembling those of Saxony. This rare metal is also found in New Mexico\*. Copper has already been mentioned, in describing the rich mines of Guanajuato; and mines of the same metal are worked to the west of Pasquaro, the capital of Mechoacan†. Lead is among the products of New Leon.

Further information on this interesting topic may be derived from the recent publication of the German baron Humboldt. He says that the most considerable mines of Peru are those of Potosi, (which are in La Plata!) Pasco, and Chota, which are all considerable heights; while those of New Spain, Guanajuato, Zacatecas, Tasco, and Real del Monte are of moderate elevation. The chief mines of the Intendancy of Mexico, are the Veta Biscagua de Real del Monte, near Pachuca; Zimapan el Doctor, and Tehuilotepic, near Tasco. One mine near Sombrerete, displayed the greatest richness ever found in

\* Clavigero says, i. 387, that the Mexicans used thin pieces of tin, and bits of copper in the shape of a hammer, as money. The chief tin mines are now near Durango. Est. xvii. 239.

† The principal copper mines seem to be in the neighbourhood of Pasquaro, and the trade of that city is chiefly derived from them. Est. xvii. 90.

any vein. The mines of Guanajuato are at present more productive than those of Potosi, or any other mines ever have been. The mines of Catorce, which produce about 800,000l. a year, were only discovered in 1773. He erroneously asserts, that the nearest mines to Louisiana are those of Catorce, in the parallel of the town of New Santander, lat.  $23^{\circ} 40'$ , so that they are about 300 leagues distant. The contrary, as already observed, is clear from his own map, and Pike's Travels\*.

Amber and asphalt likewise occur in New Spain: and among the precious stones a few diamonds, as is said, with amethysts and turquoises; but the list is imperfect, and perhaps erroneous. The mountains also produce jasper, marble, alabaster, magnet, steatite, jad, talc. The stone called *tetzontli*, red and porous, was used in building, being perhaps a kind of tufa. The *its* is semi-transparent, of a glassy substance, and generally black, but also found white and blue: it was used in mirrors, and also for sharp instruments, being the same called *pietra del Galinazzo* in South America, the obsidian or volcanic glass of modern mineralogy†.

In the province of Tecali, to the S.E. of Puebla, is found a considerable quarry, of what Alcedo calls marble, of a green and white colour, of which altars for churches have been constructed, and even lanterns as clear as glass. Among the most singular fossils may be mentioned the bones of elephants, mentioned by Estalla‡. On digging the foundations of the convent of Guadalupe, near Mexico, these bones were found in different parts, lying upon sand, at the depth of four yards, above was sand and hard clay. The same bones were found in excavations in the hill Tepeyac. A tusk found at Guadalupe was three Spanish yards and one-third in length, so that the animal seemed to be greater than the elephant. But they are the same with those of the mammoth of Siberia and North America, which seems to have been a large species of elephant, adapted to cold climates, but now extinct§.

\* Humb. 43. 207. 261. 246. 286. 288. The fine marble of Puebla is found within a few leagues of that city. One kind, that of Tecali, is translucent, like the alabaster of Volterra, and the phengites of the ancients. Ib. 243.

† At the end of D'Aueroche's voyage to California, there is a curious letter from Alzate, a Mexican gentleman, to the Royal Academy of Sciences at Paris, on the natural history of New Spain. He mentions some trees of surprising size, one of them fifty feet in circumference; and, perhaps credulously, reports that, in digging a mine in the province of Rouera, petrified human bodies were found, which yielded a considerable quantity of silver. The large teeth and bones seem to be the same with those of the mammoth; and he obscurely describes basaltic columns. The bell stone is probably the sonorous marble of China. The cedar silver ore of Huajanato (Guanajuato?) seems only dendritic, mingled with spar.

Hernandez, or Fernandez, physician to Philip II. of Spain, who wrote about 1580, compiled a large collection in manuscript concerning the natural history of New Spain. An abridgement was published by Ximenez, in Spanish and afterwards translated into Latin, and published at Rome, 1651, folio. The minerals are enumerated in the tenth book, in the imperfect manner then practised, and with a ridiculous reference to their uses in medicine. In the Supplement, however, the objects are such as have no use in medicine; and among others he mentions, p. 85, the *tecuitlatl*, a kind of earth, rising to the surface of the lakes, which was preserved as cheese, and eaten with maize. The cakes prepared from it, though the smell was that of mud, tasted like cheese, and the colour was yellow or green. Some lakes thus yielded a considerable income to the proprietors.

‡ Estalla, xxvii. 250. Humboldt found them on the Andes, at the height of eight or ten thousand feet.

§ See the *Essai de Geologie* of M. Faujas, p. 237.

NATURAL curious qualities, of great heat, volcanoes, there able being the P bridge in the ter miles S. E. from river, called the but it seems unc a rocky mountai an earthquake. be mentioned the laxara and the la Mexico were art twisted willows.

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\* Pike's travels.

† Humb. 241. 263.

‡ There are many sul to Estalla, there is no la Silan and Cuyo, on the



**NATURAL CURIOSITIES.]** There are several mineral waters of various qualities, sulphureous, vitriolic, and aluminous; and some springs of great heat, but none seem particularly distinguished. Besides the volcanoes, there are many natural curiosities, one of the most remarkable being the *Ponte de Dios*, or bridge of God, resembling the natural bridge in the territory of the United States. It is about one hundred miles S. E. from Mexico, near the village of Molcaxac, over a deep river, called the *Aquetoyaque*, and is constantly passed as a high-way; but it seems uncertain whether the river have worn the passage through a rocky mountain, or the fragment be part of a fallen hill detached by an earthquake. There are many romantic cataracts, among which must be mentioned those of the river *Barnaja*, between the city of *Guadalajara* and the lake of *Chapala*. The floating gardens in the lake of Mexico were artificial curiosities, the bottom being formed of inter-twisted willows.

"About one hundred miles south of Chihuahua there is a mountain, or hill of load stones. Walker, who had been on the ground and surveyed it, informed me, it appeared to be in solid strata, as regular as limestone; he had brought home a square piece of near  $1\frac{1}{2}$  foot, and was preparing some to be sent to Spain, and likewise forming magnets to accompany it, in order that their comparative strength might be ascertained with magnets formed in Europe\*."

A singular group of rocks arises not far from Durango, being about 12 leagues from N. to S. They consist of what Humboldt calls basaltic amygdalite, and are said to be covered with scorizæ. Near Durango also appears, quite detached upon a plain, an enormous mass of native iron and nickel, corresponding in composition with the meteoric stones.

The famous *Ahahuete*, or cypress, in the Intendancy of Puebla, is seventy-three feet in circumference. One or two others also rival the *baobab* or *Adansonia* of Senegal, esteemed the largest kind in the world. Are not both equalled by the famous chestnut tree of Etna? An enormous cypress three leagues from Oaxaca, is said to be 36 yards in circumference, but some assert that there are three trunks conjoined†.

In the province of Vera Paz, which seems to be chiefly calcareous, as it abounds with spots where rivers suddenly sink under ground, there is, between two high ridges, a cave of great extent, with many detached recesses, abounding with beautiful stalactitic columns and figures, which appear alabaster‡. The cold is extreme, and a great noise of water is heard, which rushing from various parts, forms, at a little distance from the mouth of the cave, a lake of great depth, which rolls like a sea, and gives birth to a river, which in a short space vanishes under ground§. This province also abounds with lofty and picturesque cataracts, which are likewise frequent in many parts of New Spain, the whole of which may in fact be regarded as one natural curiosity. But the indolent superstition of the inhabitants leads them to prefer puerile acts of lazy and pretended devotion, to that real and sublime devotion which contemplates the hand of God in the works of his creation.

\* Pike's travels.

† Humb. 241. 263. 292.

‡ Estalla, xxvii. 169.

§ There are many subterranean rivers in the province of Yucatan, where, according to Estalla, there is no large visible stream, except that of *Lagartos*, between the ports of *Silan* and *Cuyo*, on the N. of this peninsula.



On the sea coast of Florida the shooting of the stars, as it is termed, is sometimes so general throughout the firmament, as to appear like a grand fire-work of sky rockets, flying in all directions, a spectacle singularly awful and sublime \*. The bodies of dead fish filling the ocean with phosphoric matter, and a vast weight of water flowing into the gulf of Mexico, and probably bringing prodigious numbers of these bodies, may not this appearance arise from the evaporation of the phosphorus under the strong heat of a tropical sun ?

### REMOTE AND DISTINCT PROVINCES.

As in some countries the description of the appendant islands has been necessarily subjoined, so in some it may be proper, for the sake of greater clearness and precision, to give short accounts of detached provinces, which cannot so well enter into the general and compact delineation of the political and natural state of a country, considered on a large and truly geographic scale. Thus, in a description of the Prussian dominions, the district of Neufchatel becomes heterogeneous, and might be detached. Sweden is in the same predicament, with respect to Pomerania. In like manner, since the province of Louisiana has passed to the United States, the Floridas have become separate provinces ; and California is nearly as detached from New Spain as if it were an island, and has always been treated apart by the Spanish authors.

Of New Mexico some account has been given in describing the remarkable town of Santa Fé. It is a poor province, though the land be fertile, but productive of no metals. The Spanish maps abound with imaginary kingdoms, towns, and villages. The Indians of the North have mostly retired beyond the river Gila, towards the Zaguana, and mountains de las Grullas †.

FLORIDA.] East and West Florida were for a considerable time subject to Great Britain, and found by experience to be of little utility or importance. But to the United States the possession would be valuable, on account of the extent of coast, and as giving a compact uniformity to their dominions. This cession might also be prudent on the part of Spain, as diverting the attention of the States from the riches of the west, and as a mean of amity. West Florida, in particular, is chiefly useful as presenting avenues of commerce. The population is very inconsiderable, Mobile and Pensacola together not containing above 1500 souls ‡. It is the river Conacuh, not the Echambia, that runs into the bay of Pensacola. The interior of East Florida is little known, and only inhabited by a few wandering Creeks or Seminoles. The town of St. Augustin is found not to be so unhealthy as had been conceived ; and in the hands of an industrious people, the draining of the inland marshes might improve, beyond all conception, the climate and appearance of the country which often joins the pernicious mixture of heat and humidity. The natural history is not unfamiliar to the English reader, the country having been so long in our possession §.

CALIFORNIA.] Of California tedious descriptions have been published and translated into the English language, to which the patient

reader may be referred as far as the California there is a tribe of northern savages centre of the peninsula. The Spanish population consisting of some climate seems to be while water-spout serve to diversify the great variety of birds of foxes and other with part of China.

In California there are a few clouds appear purple, and green South Sea by Dr.

The northern province by the Spanish account concerning Nootka the English to form by the Spanish account of the Spanish America in 1792, as this region is possessed are much dispersed, manners differ little that after death the In this work may be California, from St. The principal garri- rable soil, for La Pe his account even the he visited it at a pa-

\* Estala, xxvi. 18.

† For an account of the printed letters of a Domin covers the mountains and with food, drink, and clot vines, peaches, all which fish are abundant, and four begun to carry on a fur tra a Real, or mining station, of the savages has of late disorders, especially that California. The whole mi and fifteen souls, and sixty Humb. 311.

§ New California begi California, was founded in Drake, which is more to Humb. 337. But this aut Relacion del viaje hec From Monterey, and covered with immense forest 14. 209.

\* Ellicott's Journal, p. 248.

† Ellicott, p. 236 and 274.

‡ See Stork's description of East Florida, with Parham's Journal. London, 1760, 4to.

§ Humb. 301. 80.

reader may be referred. The savage tribes are the Ednes in the south, as far as the Cape St. Lucas, but they call themselves Monquia; and there is a tribe of the same name on the west of New Mexico. The northern savages are the Laymones, or Cochimies\*. Towards the centre of the peninsula some volcanoes are said to have been discovered. The Spanish possession is only marked by little stations of missions, consisting of some hovels, with a poor cottage called a church. The climate seems to be divided between excessive cold and torrents of rain, while water-spouts and hurricanes are not unfrequent, and thick fogs serve to diversify these advantages. The soil seems also to display a great variety of barrenness. The chief product is derived from the fur of foxes and other animals. Such is a country under the same latitude with part of China, Hindostan, Persia, and Egypt †.

In California the sky is constantly serene, of a deep blue; and if a few clouds appear at sunset, they present the richest tints of violet, purple, and green ‡, the latter phenomenon was also observed in the South Sea by Dr. Forster.

The northern province, or what is called New California, extends, by the Spanish accounts, to Cape Mendocino, which since the disputes concerning Nootka Sound and the following treaty, which permitted the English to form settlements as far as that promontory, is regarded by the Spanish writers as at least a temporary boundary §. The account of the Spanish voyage of discovery on the north-west coast of America in 1792, and published at Madrid in 1802 ||, informs us that this region is possessed by two nations, the Essenes and Runsiences, who are much dispersed, and shew little reverence for their chiefs. Their manners differ little from those of the other tribes; but they imagine that after death they are changed into owls, which is not improbable. In this work may be found a table of the missionary stations of New California, from St. Diego in the S. as far as St. Francisco in the N. The principal garrison is that of Monterey, founded 1769, in a tolerable soil, for La Perouse observed maize, barley, and peas ¶; and by his account even the climate of the peninsula is mild though foggy; but he visited it at a particular season, and could only see a little of the

\* Estalla, xxvi. 18.

† For an account of the state of California in 1794, see Estalla, xxvi. 94, from three printed letters of a Dominican missionary. The most common plant is the *Mexcale*, which covers the mountains and valleys, and, like the maguey of the south, supplies the savages with food, drink, and clothing. The missionaries have planted olives, figs, pomegranates, vines, peaches, all which produce abundantly. But though the land be generally barren, fish are abundant, and some of the shells are exquisitely beautiful. The Spaniards have begun to carry on a fur trade with China: At 21°, near the mission of All Saints, there is a Real, or mining station, called St. Ann, and the silver is of great purity. The number of the savages has of late been prodigiously reduced by the venereal disease, and epidemical disorders, especially that of 1780. San Diego is the most southern mission of New California. The whole missions in 1787 were seventeen hamlets, containing three thousand and fifteen souls, and sixty soldiers.

‡ Humb. 311.

§ New California begins at 32° N. lat. Estalla, xxvi. 7. San Francisco, in New California, was founded in 1776. It has been confounded with the port of Sir Francis Drake, which is more to the N. under 38° 16'; and called by the Spaniards Bodega. Humb. 337. But this author must be used with caution.

|| Relacion del viaje hecho por las goletas Sutil y Mexicana, &c. 4to. with an Atlas.

¶ From Monterey, and even from the Red River to Cape Mendocino, the country is covered with immense forests of pines, and other trees. Estalla, xxvi. 39.

‡ 4. 209.

coast, so that the testimony of the Spanish writers must be preferred. Monterey, by exact Spanish observations in 1791, is in N. lat.  $36^{\circ} 35' 45''$ , and the longitude west of Cadiz  $115^{\circ} 47' 30''$ . The shells on the coast are beautiful, particularly the *aliotis myde*. In the back country there are volcanoes, whose fires are distinguishable by night. By the account of the Spanish voyage the savages of Nutka, or Nootka, are anthropophagi, like those of New Zealand, and some other isles in the Pacific. The introduction to this interesting voyage gives a view of Spanish discoveries in this quarter since the time of Colon; and observes, that there is no mention whatever of Fuca, nor of Fonte, whose pretended discoveries of straits and seas have amused so many theorists, in the naval records, nor in the archives of Spain. In the voyage of 1775, at lat.  $56^{\circ} 8'$ , high mountains were observed, covered with snow, while that of St. Jacinto stands separate, on a cape called Engano (lat.  $57^{\circ} 2'$ , long. W. of Cadiz  $129^{\circ} 40'$ ), in the shape of a cone, from which torrents of water run into the sea, forming a beautiful prospect †. They saw mount Elias, covered with brilliant snow, contrasted with the surrounding forests of pines; and its height above the sea was estimated at six thousand five hundred and seven varas of Castile, or about fourteen thousand six hundred English feet. The Russian settlements near Cook's river, and in the isle of Onalaska, only contained each about forty or fifty persons. During the voyage of 1790 a most singular circumstance occurred, for in N. lat.  $60^{\circ} 54'$ , that is by our maps in Prince William's Sound, a horrid noise being heard, the boats were sent ashore, and it was discovered that it proceeded from a wide plain covered with snow, *trozos* or truncheons of which darted into the air with great force and dreadful noise ‡. This entirely new phenomenon may perhaps proceed from subterranean winds, for any degree of volcanic heat would melt the snow; and it is in itself so incredible, that it would not have been here repeated, if great judgment and accuracy had not been displayed in the whole Spanish publication. The truth and explication must be left to future enquirers.

\*. In general the Spaniards count the longitude from the isle of Ferro round the globe; thus the Cape of Corrientes is  $268^{\circ} 10'$ .

† P. xcv.

‡ P. cx.

CANADA. — Divi-  
— Revenues. —  
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## BRITISH POSSESSIONS

## IN NORTH AMERICA.

CANADA. — Divisions. — Extent. — Religion. — Government. — Population. — Revenues. — Manners and Customs. — Language. — Cities and Towns. — Manufactures and Commerce. — Climate and Seasons. — Face of the Country. — Soil and Agriculture. — Rivers. — Lakes. — Mountains. — Zoology. — Mineralogy. — Natural Curiosities. — NEW BRUNSWICK. — NOVA SCOTIA. — CAPE BRETON. — NEWFOUNDLAND. — THE BERMUDAS.

THOSE parts of North America which still belong to Great Britain are extensive, and of considerable importance, though so thinly peopled, and in such a disadvantageous climate, that they sink into insignificance, when compared with the great and flourishing colonies belonging to Spain, or with the territories of the United States. The inhabitants of the former have been estimated at seven millions, and those of the States at five; while those of the British possessions scarcely exceed two hundred thousand souls, and the far greater part are French and natives.

**DIVISIONS.]** The chief of these possessions is Canada, now divided into two provinces, called Upper and Lower Canada; the former being the western division, on the north of the great lake or sea of Canada; while the lower division is on the river St. Lawrence towards the east, and contains Quebec the capital, and the chief city of our remaining settlements.

On the east of Canada, to the south of the river St. Lawrence is Nova Scotia; which in 1784. was divided into two provinces, that of Nova Scotia in the south, and New Brunswick in the north.

What is called New Britain comprehends the most northern parts towards Hudson's Bay, and the coast of Labrador. The large island of Newfoundland; that called Cape Breton; and the neighbouring isle St. John; complete the chief denominations of British territory. But in the English maps, while Greenland is assigned to Denmark, all the other most northern parts of America, on the east and on the west, as far south as the port of Sir Francis Drake, are impressed with the colour of British territory. By the right of prior, or at least of more complete and precise discovery, the western coast might be considered as belonging to England, according to the established usage of all European nations. But no actual settlement having taken place, except the establishment of a few detached factories, to which the natives profess no subjection, this country, together with the regions around Hudson's Bay, with Labrador and Greenland, which are, from the intense severity of the climate, declared free by nature, shall be classed among the Unconquered Countries. The present short description will therefore only comprise Canada, and the other British provinces in the south, which form actual possessions or colonies.

## CANADA.

**EXTENT.]** THIS country is computed to extend from the gulf of St. Lawrence, and isle of Anticosti, in the east, to the lake of Winnipeg

nipeg in the west, or from long.  $64^{\circ}$  to  $97^{\circ}$  west from London, thirty-three degrees, which in that latitude may be about 1200 g. miles. The breadth from the lake of Erie, in the south, or lat.  $43^{\circ}$ , may extend to lat.  $49^{\circ}$ , or 360 g. miles; but the medial breadth is not above 200. The original population consisted of several savage tribes, whose names and manners may be traced in the early French accounts, which may also be consulted for the progressive discovery, the first settlement being at Quebec in 1608. During a century and a half that the French possessed Canada they made many discoveries towards the west; and Lachontan, in the end of the seventeenth century, has given a tolerable account of some lakes beyond that called Superior, and of the river Mississippi. Quebec being conquered by Wolfe 1759, Canada was ceded to Great Britain by the treaty of Paris 1763.

**RELIGION.]** The religion is the Roman Catholic, but the British settlers follow their own modes of worship. There are only twelve clergymen of the church of England, including the bishop of Quebec; while the Catholic clergy are 126. By an act passed in 1791 a legislative council, and an assembly, are appointed for each of the provinces of Upper and Lower Canada, having power to make laws with the consent of the governor; but the king may declare his dissent at any time within two years after receiving any bill. The legislative council is to consist of seven members for Upper Canada, and fifteen for the Lower province, summoned by the governor under the king's authority, and nominated during their lives, except forfeited by an absence of four years, or by paying allegiance to a foreign power. The house of assembly is to consist of fifty members from Lower Canada, and sixteen from Upper Canada, chosen by the freeholders in the towns and districts. These councils are to assemble at least once every year; and the house of assembly continues four years, except in case of prior dissolution. British America is superintended by an officer styled Governor-General of the four British Provinces in North America, who, besides other powers is Commander in Chief of all the British troops in the four provinces, and the governments attached to them, and Newfoundland. Each of the provinces has a lieutenant-governor, who, in the absence of the governor-general, has all the powers requisite to a chief magistrate\*.

**POPULATION.]** The population of the two Canadas, according to an actual enumeration ordered by general Haldimand in 1784, amounted to 113,012 French and English, exclusive of 10,000 loyalists in the upper parts. The savages may perhaps amount to 30,000. It is probable that the population has increased since that period. The only revenue arising to Great Britain from this colony seems to proceed from an advantageous commerce, which is said to employ about seven thousand tons of shipping. The expences of the civil list are supposed to be 25,000l. of which half is paid by Great Britain, and the other by the provinces, from duties on the importation of spirits, wine, and a few other articles. The military establishment, with repairs of forts, &c., is stated at 100,000l; and the like sum for presents to the savages, and salaries to officers employed among them for trade, &c. in Upper Canada. But the advantages of the commerce are thought to counterbalance these expences.

**MANNERS AND CUSTOMS.]** The manners and customs of the settlers in Canada are considerably tinged with the French gaiety and ur-

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banity. The French women in Canada can generally read and write, and are thus superior to the men; but both are sunk in ignorance and superstition, and blindly devoted to their priests. They universally use the French language, English being restricted to the few British settlers.

The chief town is Quebec, built on a lofty point of land on the north-west side of the great river St. Lawrence; which in the neighbourhood is sufficiently deep and spacious to float more than one hundred sail of the line. The upper town, on a rock of limestone, is of considerable natural strength, and well fortified; but the lower town towards the river is open to every attack. A large garrison is maintained; but five thousand soldiers would be necessary to man the works. The inhabitants are supposed to be ten thousand, about two-thirds being French; and the presence of the governor, courts, and garrison, conspire to render it gay and lively. The lower town is mostly inhabited by traders and mariners. The houses are commonly of stone, small, ugly, and inconvenient; but the new part of the governor's house, for there is no citadel, is upon an improved plan. The monasteries are almost extinct; yet there are three nunneries. The market is well supplied; and the little carts are often drawn by dogs. The vicinity presents most sublime and beautiful scenery; and the falls of the river Montmorenci are particularly celebrated.

Montreal is a neat town on the east side of a considerable island formed by the river St. Lawrence at its junction with the river Utawas, which is the boundary between Lower and Upper Canada, about 150 miles above Quebec. This is the utmost point to which ships can ascend from the sea; but for large vessels the navigation is tedious and difficult. This town contains about twelve hundred houses, and probably six thousand souls; with six churches, four of which are Roman Catholic, and four convents. The chief trade is in furs, which are thence sent to Canada for England. The canoes are chiefly employed on the Utawas, whence the fur traders proceed across to lake Winnipeg.

"York is the seat of government of Upper Canada, and lies in about 43° 35' N. lat. It is situated within an excellent harbour of the same name, sufficiently large to contain a considerable fleet."

At the grand egress of the river St. Lawrence, on the lake Ontario, near what is called the Lake of a Thousand Islands, stands the town of Kingston, more remarkable from its position than any other circumstance. The forts of Niagara and Detroit belong to the southern or American side of the boundary†. The little town of Trois Rivières, or Three Rivers, stands between Quebec and Montreal, and is chiefly remarkable for the resort of the savages: but though it contain little more than 250 houses, it is considered as the third town in British America‡. Sorelle was founded in 1787 for the American loyalists, but contains only one hundred scattered houses: it is at the distance of fifteen leagues from Montreal towards Quebec; and the chief business is ship building.

**MANUFACTURES AND COMMERCE.]** The principal exports are furs and peltries, with some fish, potash, and American ginseng. The imports are spirits, wines, tobacco, sugar, salt, and provisions for the troops. Except some linen, and coarse woollen cloths, manufactured articles are chiefly imported from England.

\* Wadd's Travels.  
‡ Ib. ii. 72.

† See ib. vol. ii. p. 64, &c.



**CLIMATE AND SEASONS.]** The extremes of heat and cold are amazing; the thermometer in July and August rising to 96, while in winter the mercury freezes. The snow begins in November; and in January the frost is so intense that it is impossible to be out of doors for any time without the risk of what is called a frost bite, which endangers the limb; and the warm intervals only increase the sensation and the jeopardy. But winter, as at Petersburg, is the season of amusement; and the sledges drawn by one or two horses, afford a pleasant and speedy conveyance. Several stoves are placed in the hall, whence flues pass to the apartments; and there are double windows and doors. On going abroad the whole body is covered with furs, except the eyes and nose. In May the thaw generally comes suddenly, the ice on the river bursting with the noise of cannon; and its passage to the sea is terrific, especially when a pile of ice crashes against a rock. Spring is summer; and vegetation instantaneous. The month of September is one of the most pleasant.

**FACE OF THE COUNTRY.]** The face of the country is generally mountainous and woody; but there are savannas and plains of great beauty, chiefly towards Upper Canada. In the lower province the soil mostly consists of a loose blackish earth of ten or twelve inches, incumbent on cold clay. This thin mould is however very fertile, and manure was seldom or never used by the French settlers; but of late marle has been employed, and is found in considerable quantities on the shores of the river St. Lawrence. A little tobacco is cultivated for private use, with many culinary vegetables, and considerable crops of grain, wheat being reckoned among the exports; a kind of vine is indigenous, but the grapes are sour, and little larger than currants\*. Raspberries are also indigenous; and there are good currants and gooseberries. A great variety of trees is found in the forests; beech, oak, elm, ash, pine, sycamore, chestnut, walnut, &c. The sugar maple tree also abounds, and the sugar is generally used in the country.

The great river St. Lawrence has been already described in the general view of North America. The Utawas is the most important of all its tributary streams, issuing from various lakes, towards the centre of Canada: its waters are of a bright greenish colour, while the St. Lawrence is muddy. Many rivers of smaller consequence flow into the river St. Lawrence from the north. The large lakes have been also already mentioned; there are many others of which the enumeration would be tedious; and some difficulty arises from the want of any precise boundary in the north of Canada. Nor have the mountains been examined by any geologist, who could indicate their ranges or illustrate their structure. The chief ridge seems to be in the northern part of the province, in a direction S.W. and N.E. giving source to the many streams which flow S.E., while a few pass to Hudson's Bay. But there are many mountains between Quebec and the sea, while towards the Utawas only a few are scattered, and to the S.W. there are ample plains. The chief singularities in zoology are the moose, the beaver, and some other animals, for which Mr. Pennant's *Arctic Zoology* may be consulted. The rein-deer appears in the northern part, and the puma and lynx are not unknown. Both the Canadas are much infested with rattlesnakes. The humming bird is not uncommon at Quebec†. The mineralogy is of little consequence; and even iron seems to be rare. There are said to be lead mines which

\* Weld, li. 381. This kind of vine probably gave name to the Norwegian Vinkel.

† Kalm, li. 230.

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† See Kalm, li. 230

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produce some silver \*; and it is probable that copper may be found, as it appears in the S. W. of lake Superior. Coal abounds in the island of Cape Breton, but this valuable mineral has not been discovered in Canada. The chief natural curiosities seem to be the grand lakes, rivers, and cataracts. Among the latter the celebrated falls of Niagara are chiefly on the side of Upper Canada, the river being there 600 yards wide, and the fall 142 feet. A small island lies between the falls; and that on the side of the States is 350 yards wide, while the height is 163 feet: from the great fall a constant cloud ascends, which may sometimes be seen at an incredible distance; and the whole scene is truly tremendous.

### NEW BRUNSWICK.

THE ancient province of Nova Scotia was granted by James I. to his secretary Sir William Alexander, afterwards earl of Stirling. It was afterwards seized by the French, who seem indeed to have been the first possessors, and by whom it was called Acadie †; but it was surrendered to England by the treaty of Utrecht 1713. In 1784, as already stated, it was divided into two provinces, New Brunswick and Nova Scotia. In the former there are two considerable bays, and a river of some length, called St. John's; while that of St. Croix divides New Brunswick from the province of Main, belonging to the United States. The river of St. John is navigable for vessels of fifty tons about sixty miles; and for boats about two hundred; the tide flowing about eighty. The fish are salmon, bass and sturgeon; and the banks enriched by the annual freshets, are often fertile, level and covered with large trees. This river affords a common and near route to Quebec. There are many lakes, among which the Grand Lake is 30 miles long, and about nine broad. The great chain of Apalachian mountains passes on the N. W. of this province, probably expiring at the gulf of St. Lawrence. The capital is Frederick-town on the river St. John, about ninety miles from its estuary. St. Ann's is almost opposite; and there are some other settlements nearer the bay of Fundi, with a fort called Howe. There is a tribe of savages called the Marechites, estimated at 140 fighting men. The chief products are timber and fish,

### NOVA SCOTIA.

THIS province is about 300 miles in length, by about 80 of medial breadth, being inferior in size to New Brunswick. There are several considerable rivers, among which that of Annapolis is navigable fifteen miles, for ships of 100 tons. The bay of Fundi, between New Brunswick and Nova Scotia, extends fifty leagues inland; the ebb and flowing of the tide being from forty-five to sixty feet. The capital is Halifax, on the bay of Chebucto, well situated for the fishery, with communications, by land and water, with other parts of this province and New Brunswick ‡. There is a good harbour, where a small squadron of ships of war, employed in protecting the fishing vessels, is laid up in the winter. The town is entrenched, with forts of timber, and is said to contain fifteen or sixteen thousand inhabitants, a superior population to that of Quebec. Shelburn,

\* See Kalm, ii. 349.

† See Lahontan, ii. 24.

‡ Morse, 120.

towards the S. W., once contained six hundred families; Guisbory about 250. The harbour of Annapolis is excellent; but it is an inconsiderable hamlet. During a great part of the year the air is foggy and unhealthy; and for four or five months intensely cold. There are many forests; and the soil is generally thin and barren, though fertile on the banks of the rivers, in grass, hemp, and flax; but supplies of grain are sent from England. The Micmacs, an Indian tribe of about 300 fighting men, dwell to the east of Halifax. Britain sends to these provinces linen and woollen cloths, and other articles to the amount of about 30,000*l.*; and receives timber and fish worth about 50,000*l.* The chief fishery is that of cod on the cape Sable-coast. Near cape Canco there are remarkable cliffs of white gypsum. About twenty-three leagues from that cape is the Isle de Sable, or of Sand, consisting wholly of that substance, mixed with white transparent stones, the hills being milk-white cones, and some 146 feet above the sea. This strange isle has ponds of fresh water; with junipers, blueberries, and cranberries, and some grass and vetches, which serve to support a few horses, cows, and hogs. The bay of Fundi presents an infinite variety of picturesque and sublime scenery.

### ISLAND OF CAPE BRETON.

THIS island is attached to the province of Lower Canada, though divided from Nova Scotia only by a strait of one mile in breadth. It is about a hundred miles in length; and according to the French authors was discovered at a very early period, about A. D. 1500, by the Normans and Bretons, who navigated these seas; and being supposed a part of the continent was called Cape Breton. They did not however take possession of it till 1713, when they erected fort Dauphin: the harbour being found difficult, Louisbourg was built in 1720, the settlers being chiefly from Europe, as the Acadians, or French of Nova Scotia, did not choose to leave that country. In 1745 Cape Breton was taken by some troops from New England: and has since remained subject to the British crown. The climate is cold and foggy, not only from the proximity of Newfoundland, but from numerous lakes and forests. The soil is mere moss, and has been found unfit for agriculture. The chief towns are Sidney and Louisbourg; the whole inhabitants of the isle do not exceed one thousand. The fur trade is inconsiderable, but the fishery very important, this island being esteemed the chief seat; and the value of this trade, while in the French possession, was computed at a million sterling. There is a very extensive bed of coal in this island, in a horizontal direction, not more than six or eight feet below the surface; but it has been chiefly used as ballast: in one of the pits a fire was kindled by accident, and remains unextinguished.

The island of St. John is at no great distance to the west of Cape Breton, being about sixty miles in length by thirty in breadth, and is attached to the province of Nova Scotia. The French inhabitants, about four thousand, surrendered, with Cape Breton, in 1745. It is said to be fertile, with several streams. A lieutenant-governor resides at Charlotte town; and the inhabitants of the island are computed at five thousand.

### NEWFOUNDLAND.

THIS island was discovered by Sebastian Cabot in 1497, who also founded the prior claim of England to the North American shores as far south

south as Florida was unintentionally discovered. The island is 100 miles in breadth, the highest mountain on the south-west side is 1,000 feet high, and penetrated about 100 fathoms, with some soundings beginning in September. The island is up in a pickle, and is envied by some supposed by some to be a stream from the 300,000*l.* a year to England 1711 northern shores in the gulf of St. John were ceded to the United States and the preliminary the French.

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south as Florida. This discovery, like that of Columbus and others was unintentional, the design being merely to penetrate to the East Indies. The island of Newfoundland is about 320 miles in length and breadth, the shape approaching to a triangle. It seems to be rather hilly than mountainous, with woods of birch, small pine, and fir, yet on the south-west side there are lofty head lands. The country has scarcely been penetrated above thirty miles; but there are numerous ponds and morasses, with some dry barrens. The great fishery on the banks of Newfoundland begins about the 10th of May, and continues till the end of September. The cod is either dried for the Mediterranean, or barrelled up in a pickle of salt, for the English market. These banks and the island are environed with constant fog, or snow and sleet; the former supposed by some to be occasioned by the superior warmth of the gulf stream from the West Indies. The fishery is computed to yield about 300,000l. a year, from the cod sold in the Catholic countries. The island of Newfoundland, after many disputes with the French, was ceded to England 1713, the French having permission to dry their nets on the northern shores; and in 1753 it was stipulated that they might fish in the gulf of St. Lawrence; and the small isles of St. Pierre and Miquelon were ceded to them. The French, by the treaty 1783, were to enjoy their fisheries on the northern and western coasts, the inhabitants of the United States having the same privileges as before their independence; and the preliminaries of October 1801 confirm the privileges granted to the French.

The chief towns are St. John in the S.E., with Placentia in the south, and Bonavista in the east; but not above a thousand families remain during the winter. In the spring a small squadron is sent to protect the fisheries and settlements, the admiral being also governor of the island, its sole consequence depending on the fishery; and there are two lieutenant-governors, one at St. John's, another at Placentia\*.

These dreary shores are strongly contrasted by the Bermudas or Sommer Islands, lying almost at an equal distance between Nova Scotia and the West Indies; but as they are nearer to the coast of Carolina than to any other land, it seems more proper to arrange them here than under any other division.

### THE BERMUDAS, OR SOMMER ISLANDS.

THEY are four in number, and were discovered by the Spaniards under John Bermudas, in 1527; but being afterwards neglected by them, they were again disclosed by the shipwreck of Sir George Sommers in 1609: which event seems to have induced Shakespear to describe them as ever *and with storm*. Another poet, Waller, who resided there some time, on his being condemned for a plot against the parliament in 1643, describes them in very different colours, as enjoying a perpetual spring. In 1725 the benevolent and eccentric bishop Berkeley proposed to erect a college in those islands for the conversion of the savage Americans! Of these little islands the chief is that called St. George, with a capital town of the same name, containing about five hundred houses, built of a soft free-stone, the inhabitants being about three thousand, and those of all the isles perhaps about nine thousand. There is a governor, council, and

\* The isle of Anticosti, at the mouth of St. Lawrence, is full of rocks, and has no harbour, but is covered with wood; and excellent cod is found on the shores.

general assembly; the religion being that of the church of England. The people are chiefly occupied in building light ships of their cedars, in which they trade to North America and the West Indies. It would appear that these remote isles were uninhabited when settled by the English. Mr. Morfe says that the blacks are here twice as numerous as the whites; and that a great part of their trade consists in carrying salt to America\*.

## NATIVE TRIBES

AND

### UNCONQUERED COUNTRIES.

THE arrangement of this division shall briefly pursue the order of the discoveries from the east towards the west. On this plan Greenland shall be followed by Labrador, and the territory belonging to the Hudson's Bay Company. Some account may then be given of the central parts and tribes; which shall be followed by the discoveries of the western coast and islands by the Russians, Cook, Vancouver, La Perouse, and other navigators, and by the late enterprising traveller Mackenzie.

## GREENLAND.

THE discovery of this extensive region, which, whether continental or insular, must ever continue to be regarded as belonging to North America, has been already mentioned as having been effected by the people of Iceland in the tenth century; the distance, according to the best maps, being about eight degrees of longitude in lat. 66°, or nearly 200 g. miles; but some maps reduce it to five degrees, or not more than 130 g. miles. The intercourse between this colony and Denmark was maintained till the beginning of the fifteenth century, the last of seventeen bishops being named in 1406: and in that century, by the gradual increase of the arctic ice, the colony appears to have been completely imprisoned by the frozen ocean; while on the west a range of impassable mountains and plains, covered with perpetual ice, precluded all access. The ancient settlement contained several churches and monasteries, the names and positions of which may be traced in the map by Torfaeus; from which it would seem that the colony extended over about 200 miles in the S.E. extremity. On the west some ruins of churches have also been discovered. In more recent times the western coast was chiefly explored by Davis, and other English navigators; but there was no attempt to settle any colony. A pious Norwegian clergyman, named Egede, having probably read the book of Torfaeus published in 1715, was deeply impressed by the melan-

\* From the chart by Lempriere, 1797, it appears that the largest island called Ber-muda resembles a hook, the great sound fronting the north. The length is about 55 g. miles, the breadth seldom two. The other isles are St. George's, St. David's, and Somers-et; with several islets, and numerous rocks. They are also frequented by whale-fishers.

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choly situation of this colony, if it should be found to exist; and in 1721 proceeded to the western shore, where he continued till 1735, preaching the gospel to the natives, his benevolent example having been since followed by several missionaries. The sect called Moravians began their settlements about thirty years after. It is said that the country is inhabited as far as  $76^{\circ}$ ; but the Danish and Moravian settlements are chiefly in the S.W., though at one time there appear to have been a factory as far north as  $73^{\circ}$ . The natives have no conception of what we call Baffin's Bay: but say that in the north of their country there is a narrow strait which divides it from the continent of America\*.

This dreary country may be said to consist of rocks, ice and snow; but in the southern parts there are some small junipers, willows, and birch. There are rein-deer, and some dogs resembling wolves, with arctic foxes, and polar bears. Hares are common; and the walrus, and five kinds of seals frequent the shores. The birds, particularly sea and water fowl, are tolerably numerous; as are the fish; and the insects exceed ninety species.

The short summer is very warm, but foggy; and the northern lights diversify the gloom of winter. What is called the frost smoke bursts from cracks in the frozen ocean. The natives are short, with long black hair, small eyes, and flat faces, being a branch of the Eskimos, or American Samoeds: it is supposed that they do not now exceed ten thousand, the number having been greatly reduced by the small pox. Their canoes, in which one man proceeds to kill seals, are of a singular construction, and have sometimes been wafted as far as the Orkneys. The highest mountains are on the west side; and the three pinnacles of what is called the Stag's Horn are visible from sea at the distance of forty or fifty leagues. The rocks are generally rather vertical or little inclined, consisting of granite, with some sand stone and lapis ollaris. A new mineral substance, called cryolite, has been recently found in Greenland. The lapis ollaris is of singular utility in Greenland, and the north of America, being used for lamps and culinary utensils. The soil consists of unfertile clay or sand. The winter is very severe; and the rocks often burst by the intensity of the frost. Above  $66^{\circ}$  the sun does not set in the longest days, and at  $64^{\circ}$  is not four hours beneath the horizon.

### LABRADOR.

THIS large extent of coast was so named by the Portuguese navigator who made the first discovery. In the inland parts there were American savages, and on the coasts Eskimos; but the former have mostly retired to the south, and even the latter seem gradually to withdraw. There were here only a few factories, till the Moravian clergy formed little settlements, particularly at Nain, about 1764. To these missionaries we are indebted for the discovery of that elegant iridescent felspar, called the Labrador stone. It is said to have been first discovered in sailing through some lakes, where its bright hues were reflected from the water. Mr. Cartwright, who resided at intervals nearly sixteen years in this desolate country, has published a minute and prolix journal, which however gives a curious picture of its state and appearances along the coast, for the inland parts have never been explored. The inhabitants seem to be Eskimos,

\* Mr. Pennant, A. Z. cæli. observes that the Yarmouth whale fishers, who proceed as far as Disko Bay, give no intelligence concerning Baffin's Bay.



and their manners are very filthy. He who wishes to study the manners of bears may here find ample satisfaction. At a cataract, surrounded with alders, spruces, firs, larches, birch, and aspen, many salmon ascend, and the bears assemble in numbers to catch their favourite prey. Some dive after the fish, and do not appear again till at the distance of seventy or eighty yards. Others seem to be loungers, who only come to see what is going forwards, and to enjoy the promenade and the spectacle. Our author counted thirty-two white bears, and three black ones\*. Rein deer also abound, and their venison is excellent. So far as discovered, Labrador is generally hilly, and even mountainous. The eastern coast exhibits a most barren and iron-bound appearance, the rocky mountains rising suddenly from the sea, with spots of black peat earth, producing stunted plants. Rivers, brooks, lakes, pools, and ponds are abundant, rich in fish, and frequented by innumerable birds. The eastern coast also presents thousands of islands, covered with flocks of sea-fowl, particularly eider ducks; and in the larger isles there are deer, foxes, and hares. The fish are salmon, trout, pike, barbel, eels, and others. Inland the air is milder; there are many trees, and some symptoms of fertility. The plants are wild celery, scurvy-grass, sorrel and Indian sallad. There are some appearances of iron; and the Eskimos now collect the Labrador spar on the shores of the sea and lakes, for the rocks have not been discovered. Perhaps this spar was the shining stone brought from Labrador by one of our early navigators, as a specimen of gold ore. The birds are common to arctic regions, and the animals are mostly of the fur-bearing kind. The natives are mountaineers and Eskimos; the former resembling gypsies, with somewhat of French features from a mixture of Canadian blood. They chiefly live on rein deer, and also kill foxes, martins, and beavers. They live in wigwams, a kind of tents covered with deer skin and birch bark; and are a sort of Roman Catholics, being anxious to visit the priests at Quebec. The Eskimos are the same people with the Greenlanders. They use sledges drawn by dogs, as in Asia.

### HUDSON'S BAY.

THE inland sea commonly called Hudson's Bay was explored in 1610; and a charter for planting and improving the country, and carrying on trade, was granted to a company in 1670. The Hudson's Bay Company has since retained a claim to most extensive territories, on the west, south, and east, of that inland sea, supposed to extend from 70° to 115°; and, allowing the degree only thirty miles, the length will be 1350 G. miles, and the medial breadth about 350. The vast extent of ice and snow is however of little consequence considered in itself; and it is not understood that the company gain great wealth.

The regions around Hudson's Bay, and that of Labrador, have, by a miserable compliment to the parent country, been sometimes called New Britain, a name not admitted in French or English maps. The parts on the west of Hudson's Bay have also been called New North and South Wales; while that on the east is styled East Main. In the south, James's Bay stretches inland about 300 miles by about 150 in breadth; and the most valuable settlements are in that vicinity, as Albany fort, Moose fort, and East Main factory. Farther to the south, and on the confines of Upper Canada, are Brunswick house, Frederick house, and some others, which

\* Cartwright, ii. 246.

perhaps, belong to the house is at the mouth of Winnipic. Yet north is Churchill station\*. To the west farther than Hudson's Bay Company has near rivers are the Nelson course of the latter and depth. In these are the most considerable shoals. Near that but the barbarous nor is it likely to civil history. The but at intervals the high islands, the latter and in what is called charts admit a very entirely reject.

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perhaps, belong to the North West Company. In the north, Severn house is at the mouth of a large river, which seems to flow from the lake of Winnipic. York fort stands on Nelson river; and still farther to the north is Churchill fort, which seems the farthest settlement in that direction\*. To the west the Hudson's Bay company had extended little farther than Hudson's house: while the superior spirit of the North-west Company has nearly approached the Pacific†. The most important rivers are the Nelson and Saskatchewan, and the Severn; the comparative course of the latter scarcely exceeding 400 B. miles, but of great breadth and depth. In the south the Albany, Moose, Abitib, and Harricana, are the most considerable; but all the rivers are impeded with falls and shoals. Near that singular inlet called Chesterfield there are many lakes, but the barbarous names would neither edify nor entertain the reader; nor is it likely that they should ever become memorable in natural or civil history. The sea of Hudson commonly presents bold rocky shores; but at intervals there are marshes and large beaches. There are several high islands, the largest of which in the north has been little explored; and in what is called Baffin's Bay (if such a sea exist), some maps and charts admit a very large central island called James Island, which others entirely reject.

Even in lat. 57° the winters are extremely severe; the ice on the rivers is eight feet thick, and brandy coagulates. The rocks burst with a horrible noise, equal to that of heavy artillery, and the splinters are thrown to an amazing distance‡. Mock-suns and halos are not unfrequent; and the sun rises and sets with a large cone of yellowish light. The aurora borealis diffuses a variegated splendour, which equals that of the full moon; and the stars sparkle with fiery redness. The fish in Hudson sea are far from numerous; and the whale fishery has been attempted without success. There are few shell-fish; and the quadrupeds and birds correspond with those of Labrador and Canada. The northern indigenes are Eskimos; but there are other savages in the south: and the factories are visited by several tribes.

### CENTRAL PARTS.

TILL the journey of Mr. Hearne, an officer of the Hudson's Bay Company, in 1771, and the more difficult and laborious enterprizes of Mr. Mackenzie in 1789 and 1793; little was known concerning the interior parts of North America. In 1746 D'Anville lays down, with considerable accuracy, the sea of Canada, or the three great conjunct lakes. He closes with the Lake of the Woods; and a river (now called Winnipic) runs to the N., while from the same lake a large river proceeds to the W., "discovered by a savage called Ochagac," but which does not exist. Not far to the S. of the Lake of the Woods he places the Mississippi, but says that the sources are unknown; they are now marked on that very spot. After a few other positions in that vicinity, he declares his ignorance of the country farther to the west. Thus the great lakes of Winnipic, of the Hills, and the Slave lake, with the immense ranges of mountains, and other important features, were unknown to this able geographer, who was

\* Churchill fort was built in 1718. It is also called Fort Prince of Wales.

† The boundary between the Hudson's Bay Company and Canada is understood to follow the ridge that gives source to the rivers flowing N. and S., as far as Lake Annipog, whence lat. 49° is said to form the limit.

‡ Pennant, A. Z. cxcvi.

master of all the knowledge of his time. The lake of Winnipie appears to have been disclosed to European notice about 1760, by furriers from Canada; and much was said of an imaginary large river called the Bourbon; which may however have been the Saskatchewan.

Mr. Hearne performed his journeys in the years 1769—1772; but his book did not appear till 1795. He proceeded from Fort Prince of Wales, or Churchill, and explored a group of lakes, called Doobant and other names, near Chesterfield inlet; and, farther to the west, a lake of great extent, which he calls Athapuscow, the centre being in long.  $125^{\circ}$ , lat.  $62^{\circ}$ ; evidently the Slave lake of Mr. Mackenzie, in the same latitude, but long.  $115^{\circ}$ . The junction of the Copper Mine river with the Arctic ocean was the most curious discovery of Mr. Hearne, whose journeys seemed sufficiently to demonstrate that no north-west passage was to be expected. Mr. Hearne's adventures on his new route are amusing and interesting. He met with many herds of musk cattle, a curious species described and engraved by Mr. Pennant in his Arctic Zoology. On the 14th of July 1771, he arrived at the Copper river, and on the 17th he was within sight of the sea. "I therefore set instantly about commencing my survey, and pursued it to the mouth of the river; which I found all the way so full of shoals and falls, that it was not navigable even for a boat, and that it emptied itself into the sea over a ridge or bar. The tide was then out; but I judged from the marks which I saw on the edge of the ice, that it flowed about twelve or fourteen feet, which will only reach a little way within the river's mouth. The tide being out, the water in the river was perfectly fresh; but I am certain of its being the sea, or some branch of it, by the quantity of whalebone and seal-skins which the Eskimos had at their tents, and also by the number of seals which I saw on the ice. At the mouth of the river the sea is full of islands and shoals, as far as I could see with the assistance of a good pocket telescope. The ice was not then broke up, but was melted away for about three quarters of a mile from the main shore, and to a little distance round the islands and shoals\*." He found the Eskimos here of a dirty copper colour, and rather shorter in stature than those to the south. The kettles are made of lapis ollaris, of a mixed brown and white; and their hatchets and knives are of copper. The dogs have sharp erect ears, pointed noses, and bushy tails, being a fine breed of that sort. Many kinds of sea-fowl were observed; and in the ponds and marshes, swans, geese, curlews, and plovers. The quadrupeds are musk cattle, rein-deer, bears, wolves, wolvereens, foxes, alpine hares, squirrels, ermines, &c. Mr. Hearne afterwards visited one of the copper mines, about thirty miles S. E. from the mouth of the river, being merely a hill which seems to have been rent by an earthquake, or perhaps by subterranean water. The copper is found in lumps, and is beaten out by the help of fire and two stones. Upon his return, Mr. Hearne passed farther to the west; and on the 24th of December 1771, he arrived at the north side of the great lake of Athapuscow. This lake is very full of wooded islands, and according to the natives is 120 leagues in length, from east to west, and 20 wide. It is stored with great quantities of pike, trout, perch, barbel, and two other sorts of fish called by the natives tittameg and methy. The northern shore consists of confused rocks and hills, but the southern is level and beautiful; and there are many wild cattle and moose deer, the former, particularly the bulls,

\* Pennant, A. Zt 182. Why not take the water? It might have been a large fresh water lake. Seals are common in the sea of Baikal; and the whalebone may have been procured in barter. The supposed tide is not unknown in high winds upon the southern lakes.

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being larger than the English black cattle. Proceeding southward, he arrived at the great Athapucow river, which he found about two miles in breadth, being evidently the Slave river of Mr. Mackenzie. Our traveller then passed eastward without any remarkable discovery, and arrived at Fort Prince of Wales 30th June 1772.

Mr. Mackenzie's journeys were of yet more consequence\*. In June 1789 he embarked in a canoe at fort Chepiwian, on the south of the Lake of the Hills, and proceeded along the Slave river to the Slave lake, whence he entered a river now called after his own name, till he reached the Arctic ocean. The Slave river he describes as very considerable, and says it received its name from an Indian tribe, called Slaves merely from their extreme ferocity. The Slave lake he found covered with ice in the month of June, and the chief fish were carp, white fish, trout, and pike. The banks were covered with spruce, pine, white birch, and poplars. The river called after his name is sometimes fifty fathoms in depth, though not above three hundred yards in breadth. On the 11th of July the sun remained all night considerably above the horizon; and soon after he seems to have reached the sea, in which, near the wide estuary of the river, he observed several whales. Though so far to the north, there seems to be other savages besides Eskimos; and it would appear from their report that there is another large river on the western side of the Rocky Mountains, which also joins the Arctic ocean. On his return Mr. Mackenzie observed petroleum, and a large bed of coal on fire; and on the 12th September 1789, our author finished his first voyage, which had occupied one hundred and two days. A complete confirmation thence arises that there is no northern communication between the Atlantic and the Pacific; except at so high a latitude that it must be impeded by perpetual ice.

Equally important and interesting was Mr. Mackenzie's second voyage, for, though inland, the term is proper, as both were conducted on large rivers, by means of canoes. Our enterprising traveller left fort Chepiwian on the 10th October 1792, and proceeded up the Peace river, or Unjiga, in a S. W. direction, till he reached a high land beyond the Stoney or Rocky Mountains, the height of which he computes at 817 yards. After transporting their canoe with some difficulty, they embarked on a small river on the other side, which soon brought them into the river Oregon, Columbia, or the Great River of the West, the origin and course of which were before totally misunderstood. After proceeding a considerable way he returned against the stream, and then travelled to the Pacific Ocean by land; and reached one of the numerous inlets lat. 52° 20', by Mr. Arrowsmith's map of the expedition. On the west of the Unjiga, beautiful scenery was observed, interspersed with hill and lawn, with groves of poplars, and enlivened with vast herds of elks on the uplands, and of buffaloes on the plains. The last so much abound, that in some places the country resembles a stall-yard. That fierce species called the grizzly bear was also seen. The Unjiga is sometimes from 4 to 800 yards wide; and the cold was often extreme, rather from the height of the general level than that of the mountains, which does not exceed 1500 feet. Among the birds observed were blue jays, yellow birds, and beautiful humming-birds. Beavers are common, and tracks of moose deer were remarked. Where they reached the Oregon, it was about 200 yards wide. Towards the Pacific the natives are fairer than in the other parts of North America; and one man was at least six feet four inches in height. Their eyes are not dark, like those of the other Indians, but grey, with

\* Mackenzie's Voyages, London, 1801, 4to. p. 64.



a tinge of red. The men wear only a robe made of the bark of the cedar tree, rendered as fine as hemp, sometimes with borders of red and yellow threads; and the women add a short apron. Some of their canoes are forty-five feet in length, the gun-wale being inlaid with the teeth of the sea otter, not with human teeth as Captain Cook supposed. In September 1793, he returned to fort Chepiwian, after an absence of eleven months.

These voyages having considerably improved the geography of North America, it was thought proper to narrate them at some length. It is to be regretted however, that some obscurity arises from the want of a distinct nomenclature, and the equivocal use or abuse of some of the appellations. From these and other discoveries communicated by officers of the Hudson's Bay Company, the geography of North America begins to open with more clearness, as may be judged from Mr. Arrowsmith's last map 1802. The large northern lakes are now laid down with superior accuracy. The great river Unjiga, after penetrating the western range of mountains, flows N. E. towards the Lake of the Hills, whence it receives a short but large stream; and being afterwards absurdly enough styled the Slave river, it bends N. W. to the great Slave lake, whence it issues by the name of Mackenzie's river. Such at least is Mr. Mackenzie's idea\*; and, if accepted, the name of Unjiga should be retained to its egress into the Arctic Ocean, after a comparative course of about 1700 British miles.

Next in consequence is the Saskatchewan, rising on the eastern side of the great range, and passing E. to the great lake of Winnipic, when it again issues under the name of Nelson river, and falls into Hudson's Bay, after a comparative course of more than 1000 B. miles.

A third great river, now tolerably ascertained, is the Oregon, or Columbia; also called by the natives Tacoutche Tesse, whose course is now described as being to the S. instead of the W., and about 700 B. miles in length. There are doubtless other important rivers towards the west; and a considerable one, as before mentioned, seems to join the Arctic Ocean.

The genuine sources of the Missouri, erroneously by the savages called the Mississippi, from the least important stream, seem also to be clearly evidenced, from a journey of Mr. Fidler in the service of the Hudson's Bay Company; a discovery which, as already explained, adds greatly to the length of that grand and interesting river. The real direction and uniform extent of the great western range of mountains seem also to be clearly delineated.

These observations were demanded by the present progressive state of the geography of North America. In a more immediate view of the central parts of this division of the new continent, it must not be forgotten, that they are the seats of many native and unconquered tribes, whose manners have been too frequently described by a host of travellers, that little needs be said in a work of this limited nature. Their modes of hunting and warfare, their extreme cruelty towards their prisoners, the singularities of scalping, and the use of the calumet, are sufficiently known. A more difficult topic would be an enumeration of the various tribes; and a classification according to their languages.

By a strange abuse of terms we speak familiarly of the *savage nations* of North America, while few of these pretended *nations* can aspire to the name of a tribe, and the term clan, or even family, would be more ap-

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\* P. 216. 387.

• Colden, p. 1.

‡ Charlevoix, l. 280.



propriated. The enumeration of these clans would be tedious; and a list of four hundred barbarous names would little interest the reader, except they could be classed according to languages. But a few remarks on the most noted tribes must not be omitted. The five nations of the English writers are the Iroquois of the French, being the Mohawks, Oneidas, Onondagas, Cayugas, and Sennekas; five clans joined in an old confederacy of offence and defence\*. The Mohawks were on the south of the river so called, in the province of New York; while the others extended towards the lake Ontario. The Hurons were on the east of the lake of that name. But, after the Mexicans, the chief tribe in North America was that of the Natchez, near the mouth of the Mississippi, whose worship of the sun, and other peculiarities, have been illustrated by Pratz, Charlevoix, and other writers†. In a work of more extent it might be proper to describe the manners of this people, of the Five Nations, of the Central tribe, of the Eskimos, and of the Western races on the Pacific. The Algonkin was the most celebrated of the native languages, beginning at the gulf of St. Lawrence, and including a circuit of about 3000 miles. The Huron language, which was also that of the Five Nations, was of smaller extent, on the west of the Algonkin. Yet farther to the west was the language of the Sioux, which was also that of the Knistinaux corruptly called Christinaux, but properly Killistinons, originally seated on the north of Lake Superior‡. But, according to Mr. Mackenzie, the Killistinons were originally the same people with the Algonkins, or inhabitants of the Atlantic coast; while the Chepewians, or Chepawas, and the numerous tribes who speak their language, occupy the whole space between the country of the Killistinons, and that of the Eskimos, extending to the river Columbia, lat. 52. By their own traditions they came from Siberia; while intelligent travellers, on the contrary, consider the Techuks as proceeding from America; but such interchanges of nations are not unfrequent in barbarous periods. The tribes near the source of the Missouri are said to be from the south, and their progress N.W. probably retiring from the Spanish power. The language of the Natchez, and other nations in the Spanish territory, has not been sufficiently illustrated; and in the isthmus the dialects are said to be various, and radically distinct, yet probably, on a nearer and more skilful examination, would be found to approach the Mexican.

#### WESTERN COAST.

THE Russians may be regarded as the first discoverers of the north-western shores of America. To the isles between Asia and this continent they assign different names, as Andrenovian, &c. but in their own most recent maps one general appellation is substituted, that of the Aleutian Isles. The farthest Aleutian Isles, which form a chain from the American promontory of Alaska, are also called the Fox isles; while the nearest Aleutian Isles of the Russians are those which we term Bering's and Copper. But in the best English maps the name of Aleutian is restricted to the former; and it is to English navigators that we are indebted for the precise geography of these regions, which have been strangely embroiled by the erroneous astronomical observations of the Russian captains.

\* Colden, p. 1.

† The Natchez are now extinct. Imlay, p. 425.

‡ Charlevoix, i. 283. 276. 406.

This coast, as already mentioned, seems to be chiefly alpine; in which respect, and in its numerous creeks and isles it bears no small resemblance to Norway. The most remarkable mountain seems to be that called St. Elias by the Russian navigators; and which, it is affirmed, has been visible at sea at no less a distance than about sixty leagues. At *Port des François*, lat.  $58^{\circ} 37'$ , La Perouse observes that the primitive mountains of granite or slate rise from the sea, yet the summits are covered with perpetual snow, and immense glaciers wind through the cavities\*. The lofty mountains, which La Perouse computes at more than ten thousand feet in height, terminate at Cross Sound; but the alpine ridges continue, though of smaller elevation, and probably extend with few interruptions as far as California. Mr. Mackenzie in lat.  $53^{\circ}$ , and Vancouver in a more southern latitude, found the same mountainous appearances. What is called the coast of New Albion has been faintly explored; and the Spanish power is always an obstruction to science. The inhabitants of the more northern regions of this coast appear to be Eskimos. In the part through which Mr. Mackenzie passed, he found some of the tribes of a low stature, with round faces, high cheek bones, black eyes and hair; the complexion of a swarthy yellow.

**MANNERS, &c.]** After this general survey of the unconquered countries, some account of the indigeneal tribes shall be added:

The dances among the Indians are many and various, and to each of them there is a particular hoop. 1. The calumet dance. 2. The war dance. 3. The chief's dance. 4. The set out dance. 5. The scalp dance. 6. The dead dance. 7. The prisoner's dance. 8. The return dance. 9. The spear dance. 10. The marriage dance. 11. The sacrifice dance. The Indians of Canada, in their war dances few hawk bills, and small pieces of tin on them to make a jingling noise. The savages are esteemed very active and nimble footed. They are also admirable swimmers, and are not afraid of the strongest current.

One part of their religious superstition consists in each of them having his totam, or favourite spirit, which he believes watches over him. This totam they conceive assumes the shape of some particular beast, which therefore they never kill, hunt, or eat. Dreams are much attended to by the Indians, and sometimes they make an artful use of the veneration that is paid to them, to secure some object they may have in view.

The Knistineaux, more properly Killistons or Kistinons, are a nation of some consequence spread over a vast extent of country in the centre of the northern part of America. Their language is the same as that of the people who inhabit the coast of British America on the Atlantic, with the exception of the Esquimeaux. They are of moderate stature, well proportioned, and of great activity. They are naturally mild and affable, as well as just in their dealings, not only among themselves, but with strangers. The females of this nation are in the same subordinate state with those of all other savage tribes; but the severity of their labour is much diminished by their situation on the banks of lakes and rivers, where they employ canoes.

The savages of Nootka are said to be very cruel to their captives taken in war, and commonly eat their children. They also throw the dead bodies into the sea, in order, as they imagine, to attract the whales, as this fish forms a favourite repast. In the southerly part of North

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America the Mexicans were the most distinguished nation, and had perhaps advanced to some degree of civilization. They seem to have been followed by their neighbours of Tlascala, while many other tribes in that quarter, and as far as the isthmus of Darien still continue in the savage state. The Alibamons were a considerable tribe on the river Alabama in Georgia. They were distinguished by their hospitality and affability, the men being robust, and the women handsome.

The Papagos reside near Upper Pimeria.

The Mosquinos or Mosquis dwelt in the centre of the mother chain of mountains in the part bordering on New Mexico. They were formerly converted by the Franciscans, but they have killed all the missionaries, and abjured the Christian faith.

The Cocomaricopas dwelt on the river Gila, the space between which and the Colorado is a vast upland desert; and there is another tribe of the same savages on the west of the Colorado. They are addicted to agriculture, sowing wheat, maize, &c.

In New Mexico there are thirty villages of Christian Indians of various tribes, who are generally industrious, and clothed in the skins of wild goats, while the women wear mantles of wool or cotton. All have their instruments of agriculture, and travel on horseback.

The Ietans or Cumanches are a powerful nation, which is entirely erratic, without the least species of cultivation, and subsisting solely by the chase.

The principal savage tribes on the Missouri are the Osages, who raise large quantities of corn, beans and pumpkins; the Kansas on the river of the same name; the Ottos at the confluence of the Flat or shallow River with the Missouri; and the Panis, or Pawnees on the same stream.

#### *Botany of Canada and the North.*

THE indigenous plants of the regions north of the river St. Lawrence form a singular mixture of the floras of Lapland and the United States. From the intensely cold winters and hot summers of this extensive appendage to the British empire, it might, indeed, be expected that the annual plants, and such as are capable of being sheltered in winter under the snow, should be, for the most part, the same as those of more southern countries; while the trees and shrubs, having to brave the utmost rigour of the climate unprotected, should be characteristic of the Arctic regions. A regard to this circumstance will enable us to explain the seeming contradictions in the agriculture of Canada, which are scarcely credible by the mere uninformed English farmer, such as that gourds and water melons should be a common field crop, while the hardest winter corn is almost always destroyed by the cold.

The forests are numerous, but the trees never attain that bulk and luxuriance of growth which distinguishes them in the southern states. The family of firs and evergreens composes perhaps the largest proportion; and of these the principal are, the silver-leaved fir, the Weymouth pine, the Canadian pine, the hemlock spruce fir, and the white cedar of Canada, (*thuya occidentalis*), which must not be confounded with the white cedar of the United States, (*cupressus disticha*). Next to these in importance are the sugar maple, the red maple, the birch, the American lime and elm, and the iron wood. The numerous species of oaks are either wholly unknown, or are contracted into despicable shrubs, all the ship timber of Canada being brought from the New England provinces. The *salix laevis*, and red mulberry, are also met with in the islands of

the St. Lawrence, but in a similar state of depression, the whole of the summer's growth being often destroyed by the next winter. The ash, the yew, and mountain ash are found in the northern tracts both of the old and new world; but the light festoons of wild vine, with its pendent clusters, and the fragrant blossoms of the Syrian aclepias, form a characteristic feature of the forest scenery of Canada.

The Canadian lily, similar to the Sarrane lily of Kamtschatka, and the ginseng, common to America and Tatory, point out a similarity between the northern floras of Asia and America.

The juniper, the cranberry, the bearberry, the black and red currant, the raspberry, and wild cherry, which have already been mentioned as natives of Lapland and the whole north of Europe, are found in great plenty in similar situations on the opposite shores of the Atlantic.

Of the other Canadian plants little is known, and a meagre catalogue of Linnæan names would little contribute either to the amusement or to the instruction of the general reader. One, however, the zizania aquatica, deserves to be mentioned: this graminaceous vegetable is nearly allied to the rice; it grows abundantly in all the shallow streams, and its mild farinaceous seeds contribute essentially to the support of the wandering tribes of Indians, and to the immense flights of swans, geese, and other aquatic fowls, which resort hither for the purpose of breeding. Productive as it is, and habituated to the climate, inhabiting also situations which refuse all other culture, it is surprising that the European settlers have as yet taken no pains to improve a plant which seems intended by nature to become at some future period the bread-corn of the north.

## ISLES OF COLON,

OR

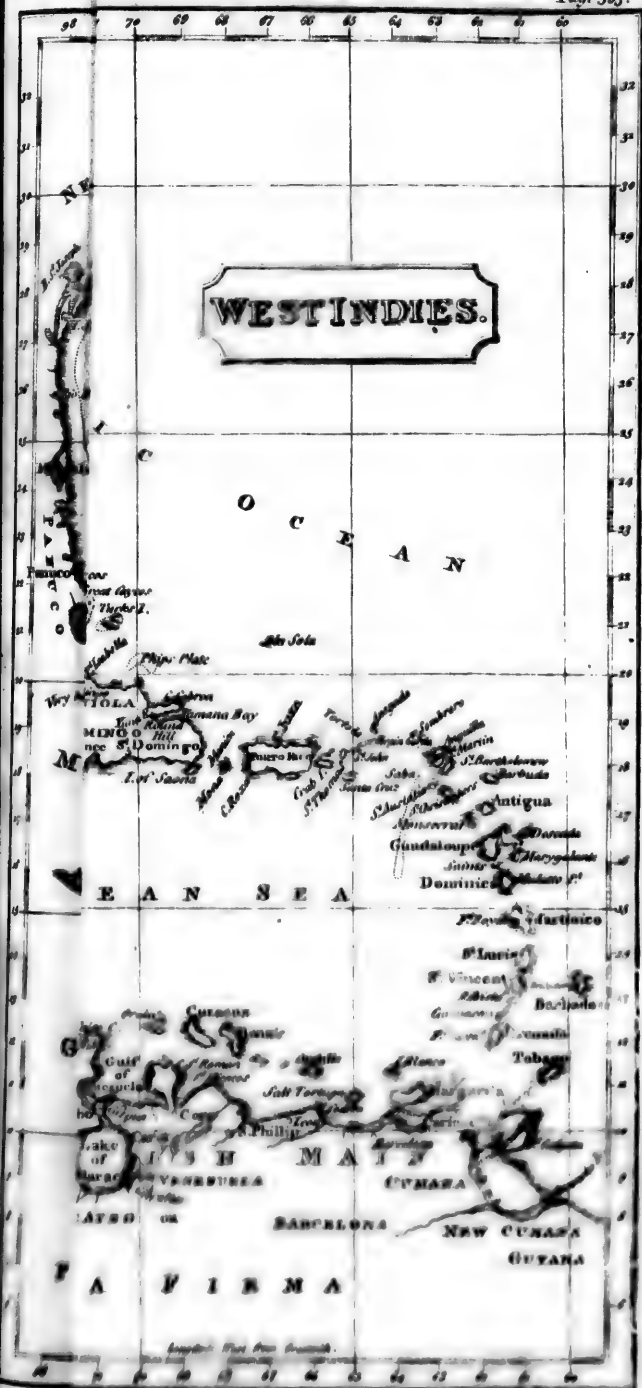
### WEST INDIES.

**T**HESE islands, so important to commerce, are Cuba, St. Domingo, Jamaica, and Porto Rico, all of considerable extent; and followed by the distinguished group called the Antilles, Caribbee, or Leeward Islands, but more properly by the French, Windward Islands, as being towards the east, the point of the trade wind\*. To the south of this group is Trinidad, a recent English acquisition; to the west of which stretch the Leeward Islands of the Spaniards. In the N. E. of this grand assemblage are the Bahama or Lucayos Islands, narrow and barren strips of land, formerly frequented by pirates, till subjected to the legal power of England; but chiefly remarkable as having been the first discovery of Colon. The restricted nature of this work will not admit of a description adequate to the importance of these islands, which is the less to be regretted, as the subject is already familiar to most readers. The best geographical order appears to be that suggested by their natural extent and importance, independent of the partial and fleeting distinction of European possession.

\* Our mariners apply both terms to the Caribbee Islands; the Windward on the way with Martinique, the Leeward reaching from Dominica to Porto Rico. Edwards, l. 2.

CUBA.

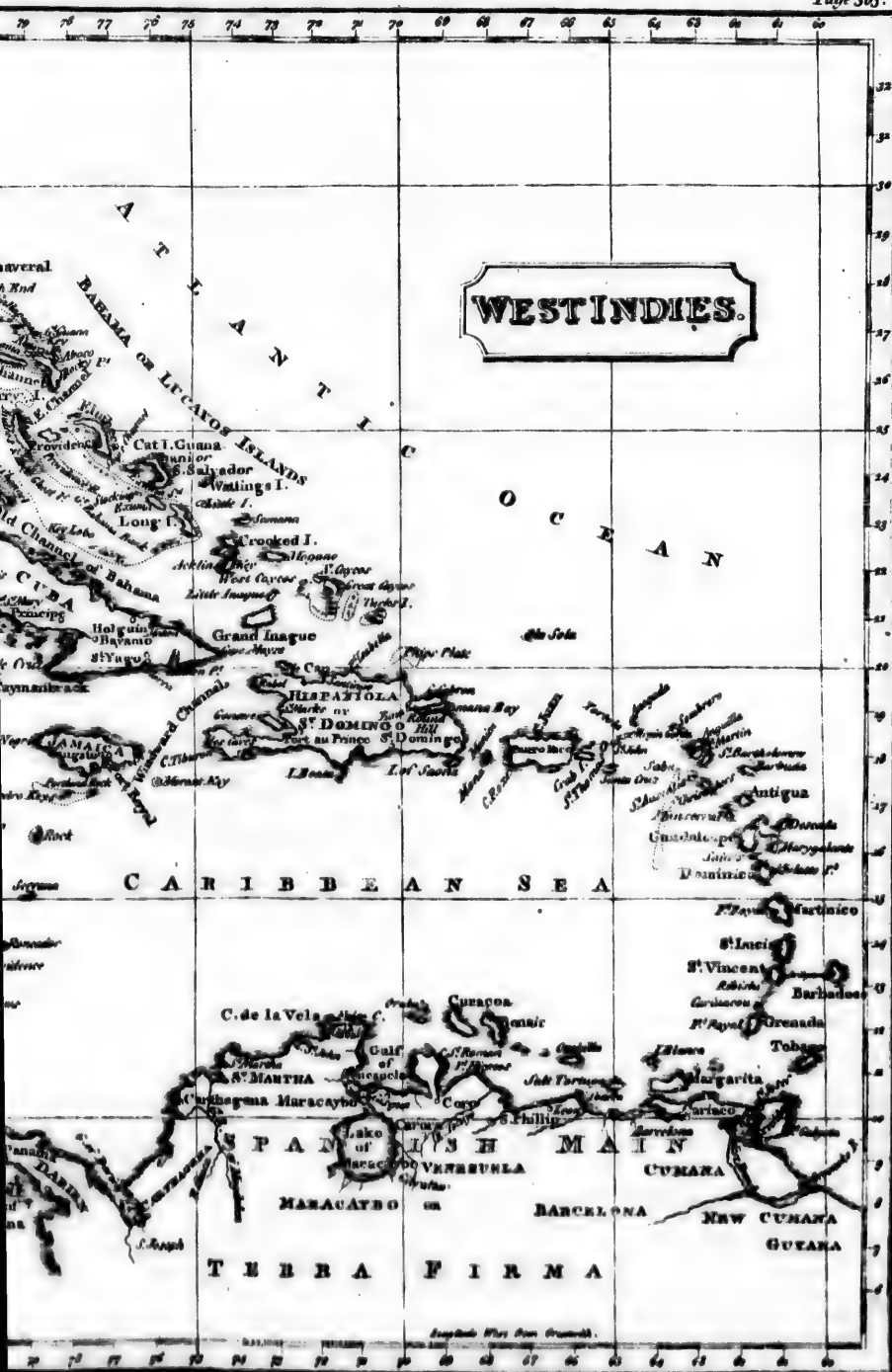








From various Authorities.  
Published April 1840, by G. H. & D. S. Strand: & J. H. & R. P. Paterson & Co.



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## CUBA.

THIS noble island is not less than 700 B. miles in length; but the medial breadth does not exceed 70. On his first voyage, after exploring the Bahama Isles, Colon discovered Cuba\*; but though delighted with the beauty of the scenery, and amazed at the luxuriant fertility of the soil, he soon abandoned it to proceed to Hayti, afterwards called Hispaniola, or St. Domingo, where he expected to find a greater abundance of gold; which, with gems and spices, formed the only objects of the early navigators. While Hispaniola was selected as a factory to secure the acquisition of gold, it was not certainly known whether Cuba was an island, or part of the continent, till 1508, when it was circumnavigated by Ocampo; and in 1511 it was conquered by three hundred Spaniards under Velasquez†. The number of the inhabitants was no doubt exaggerated, as even in our enlightened times happened with regard to Otaheite, and other new discoveries. The Spaniards certainly did not achieve miracles in their American conquests, nor was the awkward use of unwieldy cannon and fire-arms, at that time, so fatal and preponderant a circumstance as may be imagined. The Malays, with their creeses, defy fire-arms. The natives were not only timid, but few: and nine-tenths may be safely subtracted both from Spanish valour and Spanish cruelty. These reflections have been excited by the charge of extermination brought against the Spaniards of Cuba; while the natives equally vanish around all European colonies, the real destroying angels being the small pox, and spirituous liquors.

The industry of the Spaniards is far from being proverbial; yet such is the fertility of Cuba, that it may be regarded as a most important and flourishing possession. The quantity of sugar is considerable; and the tobacco is esteemed of a more exquisite flavour than that of any other part of America. This, with the other large islands, were also called the Great Antilles, and they were also known by the name *Sotavento*, or the *Leeward Islands*, in contradistinction to the exterior group called *Barlovento*, or *Windward Islands*. Havanna the capital, was built in 1519; and was taken in 1669 by Morgan, a celebrated buccaneer. It again surrendered to the English in 1761, and treasures were found of no small amount. This extensive island is divided by a chain of mountains passing E. and W. The rivers are of short course, but there are several excellent harbours. Among the products must also be reckoned ginger, long pepper, mastic, cocoa, manioc, and aloes. There are mines of excellent copper, which supply the other Spanish colonies with domestic utensils; and gold is not unknown in the rivers. The forests abound with wild cattle and swine; and among the trees are green ebony and mahogany. There is a governor-general; and eighteen jurisdictions are governed by distinct magistrates. The natural history of this large island is very defective, as is the case with all the Spanish possessions.

Havanna presents the appearance of an European town, and its prosperity may be judged of from the number of cabriolets which exceed three thousand. The college, or university of Havanna, was founded in 1774, by the bishop Echavarria, with two professors of theology, one of philosophy, and two of Latin. The arsenal is superb; and ships of war are built of cedar, and other woods supplied by the island. The garrison is one of the chief in Spanish America, consisting of two regiments of veterans, two of light infantry, one squadron of dragoons, and other

\* Robertson's America, l. 190.

† lb. 209.

troops; the total about ten thousand. In addition to the well known castle of Moro, fort San Carlos was built in 1763, and San Diego in 1780. The theatre, however, has been gradually abandoned, and was ruined in 1792.

Havanna forms as it were an universal mart for all the rich products of New Spain, and the returns from the parent country.

The people of Havanna are, like other Spaniards, fond of bull fights; and, like the Mexicans, also infatuated with cock fighting. The balls form another favourite amusement, and no invitation is required, a genteel dress being sufficient. Some of the dances are native and graceful.

The age of the inhabitants generally extends to sixty or seventy years; and though some exceed that period, their faculties are commonly annihilated. The manner of living is generally as objectionable as in New Spain. In the morning with chocolate, coffee, or milk, is taken a savoury dish, called *chuleta*, or ribs of pork, which they have fresh throughout the year, or some other animal food fried in lard: at mid-day, the usual dish is *agiaco*, a kind of fruit of so hot a taste, that tears bathe the cheeks of the guests. In the evening there is a regular supper of rice seasoned with salt and lard, boiled flesh, fallads, and other dishes. At the two last meals, the usual desert is sweetmeats, or sugar pressed from the cane, the consumpt of which is incredible.

### SAINT DOMINGO.

THIS Island, the second in the American archipelago, is now wholly possessed, at least nominally, by the French; and is about 400 B. miles in length by 100 in breadth. Under the name of Hispaniola it was the first Spanish settlement in the New World. The French colony derived its origin from a party of buccaneers, mostly natives of Normandy, towards the middle of the seventeenth century; and the western part was formally ceded to France by the peace of Ryswick. So industrious and flourishing was this French colony, that it was termed the paradise of the West Indies: and according to Mr. Edwards\*, in 1790, the population amounted to 30,000 whites, and about 480,000 negro slaves, the mulattoes, or free people of colour, being supposed to be 24,000; while the average exports before the revolution stood thus:

|                                        |       |                 | Livres.    |
|----------------------------------------|-------|-----------------|------------|
| Clayed sugar,                          | -     | lbs. 58,642,214 | 41,049,549 |
| Muscovado,                             | -     | lbs. 86,549,829 | 34,619,931 |
| Coffee,                                | -     | lbs. 71,663,187 | 12,479,716 |
| Cotton,                                | -     | lbs. 6,698,858  | 71,663,187 |
| Indigo,                                | -     | hhds. 951,607   | 8,564,463  |
| Molasses,                              | -     | hhds. 23,061    | 2,767,320  |
| An inferior sort of rum called taffia, | hhds. | 2,600           | 312,000    |
| Raw hides,                             | No.   | 6,500           | 52,000     |
| Tanned ditto,                          | No.   | 7,900           | 118,500    |

The total value at the ports of shipping in  
livres of St. Domingo, was 171,544,666  
being equal to 4,765,129l. sterling money of Great Britain.

\* History of St. Domingo, 1797, 4to. p. 134. Reprinted in the third volume of his West Indies, 1801, 4to.

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The national assembly of France, unhappily consisting of philosophers and not of men of business, passed some contradictory decrees concerning the rights of the mulattoes, or people of colour, to vote for representatives. The smallest ray of political prudence might have informed them that the government of distant colonies ought not to have suffered the least alteration, till years after that of the parent country were established on a solid and lasting basis. After many absurd struggles between the whites and mulattoes, on the 21st June 1793, three thousand negroe slaves, supported by the mulattoes, entered the capital city of Cape François, and perpetrated an universal massacre of the white men, women and children. The abolition of slavery by the infatuated commissioners, in order to defend the island against the English, has had the effect that might have been foreseen, the colony having been lost, at least for a season, to European civilization and culture.

The centre of the island is occupied by a group of high mountains called Cibao. From this group there rise three great chains; the longest stretching towards the east, and dividing that portion of the island. Another chain stretches to the north-west, ending at Cape Foux, while another, of less elevation, runs nearly in the same direction, and ends at Cape St. Mark. The number of mountains in the western part of the island renders the communication difficult between the northern and southern provinces.

The chief rivers are the Ozama on the south, the Yagua on the north, the Yuna on the east, and the Artibon on the west; but none is navigable above four leagues from its mouth.

There is a great number of *esters* or salt marshes, which render the climate unhealthy. The vegetable soil is in general of no great depth, but most of the hills admit cultivation. Towards the north and west the rocks are chiefly calcareous, and formed of madrepores. In other parts, according to Moreau, there are granites, porphyries, and jaspers of great beauty. Some of the waters contain a portion of sulphur: and there are two mineral springs which abound with the same substance.

The chains of mountains produce such varieties of climate, that the inhabitants are not agreed which seasons they shall denominate summer or winter. In the east and south the season of rains, from April to November, is called winter; while in the north, that season commences in August and ends in April, during which the northern winds blow and bring clouds and rain. In May, June, and July the heats are excessive. The tropical putrid fever, also called the yellow fever, was destructive to the French troops on the late expedition against the negroes. The beautiful town of Cape François has been burnt to the ground, and is now a heap of ruins.

### JAMAICA,

THIS island was discovered by Colon, 1494, during his second voyage, but was little explored till his fourth and last voyage, when he was unfortunately confined for many months on the north side of this isle, by the loss of his ships. In 1655 it fell into the hands of the English, by whose industry it has become one of the most flourishing of the West Indian settlements. In size it is the third island in this archipelago, being about 170 B. miles in length, by 60 in breadth. It is divided

into three counties, Cornwall in the west, Middlesex in the centre, and Surry in the east. St. Jago or Spanish Town is regarded as the capital; while Kingston is the chief sea-port. The number of negroes is computed at 250,000, and the whites are probably 20,000, the free negroes and mulattoes 10,000. The chief exports are to Great Britain, Ireland, and North America, in sugar, rum, coffee, indigo, ginger, and pimento, valued in 1787 at 2,000,000*l*. The intercourse with Honduras, and the Mosquito shore, may now be regarded as abandoned; but some little trade is carried on with Spanish America by small vessels, which elude the vigilance of the guarda costas. The imports were computed at a million and a half, and slaves from Africa formed a considerable article. There is a poll tax, with duties on negroes and rum, yielding more than 100,000*l*. annually; and the ordinary expences of government in 1788 were computed at 75,000*l*. The legislature consists of the captain-general or governor; a council of twelve, nominated by the crown; and a house of assembly, containing forty-three members, elected by the freeholders\*; the three chief towns, St. Jago, Kingston, and Port Royal, returning three members, the other parishes two. The principal towns are within a short distance of each other, Spanish Town being inland; while Kingston is on the north side, and Port Royal on the west, of a considerable bay; the last being greatly reduced by earthquakes and other calamities. The climate, though tempered by the sea breezes, is extremely hot; and the days and nights nearly of equal duration. A ridge of mountains, from east to west, divides the island into two parts; and the landscape often boasts of peculiar beauties. In the north the soil is generally a chalky marl, producing a close and clean turf, like an English lawn of the brightest verdure†. Towards the interior are forests, crowned with the blue summits of the central ridge. What is called the Blue Mountain Peak rises 7431 feet above the level of the sea; and the precipices are interspersed with beautiful savannas. There are about one hundred rivulets, of which the Black River, running to the south, is the most considerable. Some sulphureous and chalybeate springs likewise occur. It is said that the Spaniards worked mines of copper, if not silver; and one of lead has been recently discovered. The bread fruit tree, with other useful plants, has been introduced by the exertions of Sir Joseph Banks, than which none can be more beneficial, or more worthy of applause‡.

### PORTO RICO.

THIS isle, which belongs to Spain, is about 120 B. miles in length, by 40 in breadth. Its size and consequence are well known to the possessors, being a fertile, beautiful, and well watered country. The chief trade is in sugar, ginger, cotton, hides; with some drugs, fruits, and sweetmeats: and the northern part is said to contain mines of gold and silver. Porto Rico was discovered by Colon in 1493; and was subjugated by Ponce de Leon, the first explorer of Florida, about 1509. The Spanish voyagers and authors, whose imagination magnified every

\* Edwards, i. 214.

† What is called the brick mould contains such a mixture of clay and sand as might be adapted to the kiln; but the name has no connexion with the colour, which is hazel. Edwards, ii. 205. This is the best soil for sugar canes next to the ashy loam of St. Christopher's; and is followed by the deep black mould of Barbadoes.

‡ See Mr. Edwards's *History of the West Indies*, 2d edit. v. i. p. xiv.

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feature of the New World, reported the native population at 600,000; while perhaps a real enumeration might have reduced them to 60,000, if not to 20,000.

### THE CARIBBEE ISLANDS.

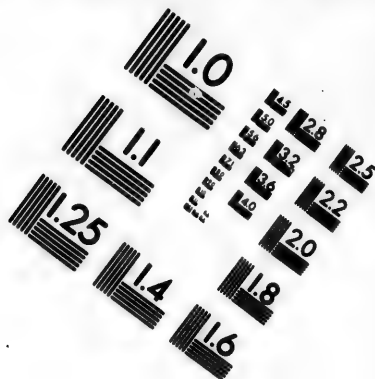
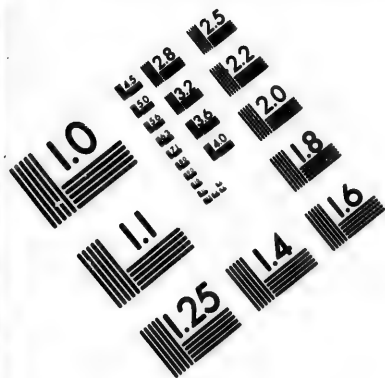
THIS range extends from Tobago, in the south, to the Virgin islands in the north; and includes Barbadoes, which stands rather detached towards the east, being about thirty-five degrees from the African islands of Cape Verd. The Caribbee islands are of noted fertility and commercial advantage, the chief possessors being the English and French. Barbadoes, Antigua, St. Christopher's, St. Vincent, Dominica, Grenada, Montserrat, Nevis, and the Virgin Isles, are British; and Barbadoes is by far the most important, as it is supposed to contain 17,000 white inhabitants; while the others rarely exceed 2000. The French Caribbee islands are Martinique, Guadeloupe, St. Lucie, Tobago, and some islets. The Danes possess St. Croix, St. Thomas, and St. John, which belong to the Virgin group; while the Swedes hold St. Bartholomew, and the Dutch St. Eustatius. Of the whole group, Barbadoes and Guadeloupe appear to be the most important; and the last, including Grand Terre and Basse Terre, is the most considerable in size, being about sixty B. miles in length, by 25 in breadth. The Caribbee islands in general were discovered by Colon, on his second voyage, when he visited Dominica, Guadeloupe and Antigua; but they were neglected by the Spaniards, eager in quest of the gold of the larger islands. Barbadoes is said to have been discovered by the Portuguese, who having made no settlement, it was seized by the English in the reign of James I; and the foundation of James Town, was laid in 1624. Though the isle be only about twenty miles in length, and thirteen in breadth, yet this early English settlement has prospered to a surprising degree, exporting about 10,000 hhds. of sugar, and 600 puncheons of rum, besides cotton, ginger, &c.\* Grenada, and most of the others, were originally settled by the French, towards the middle of the seventeenth century. St. Christopher's was however a very early British settlement. Antigua is also said to have been planted by the English in 1632; while the French began to send colonies to Guadeloupe about 1630. The subsequent struggles between the two powers concerning these valuable islands would form too complex a narrative for the present design. They are generally plain and fertile: being remarkably contrasted with the barrenness of the Bahama group. In some there are small ranges of hills: and in Guadeloupe there appear to have been many volcanoes, the noted *Souffriere* being a kind of solfatara, or vast mass of sulphur, emitting continual smoke. Dominica also contains several volcanoes. The products and exports of all these isles, are similar, being sugar, rum, coffee, cacao, indigo, cotton, &c.

Under this head may also be arranged the small group running parallel with the shore of South America, of which Curazao and Buenayre belong to the Dutch, who import African slaves, whom they sell to the Spaniards on the continent.

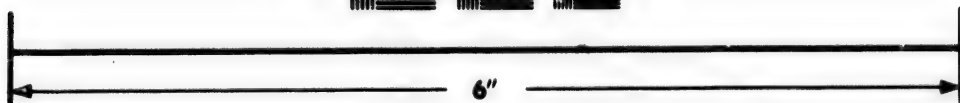
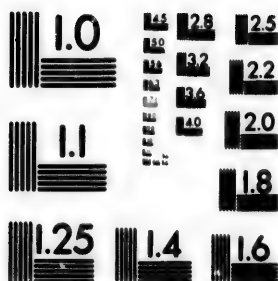
Under this division may also be classed the island of Trinidad, recently ceded by Spain to Great Britain. This island is about 60 B. miles in length, from N. to S., while the medial breadth may be about 50.

\* In a hurricane, 10th October 1780, the blacks and whites who perished were computed at 4926, and the damage at 1,020,564l. 15s. sterling. Edwards, i. 347.





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Colon landed here in 1498, when he discovered the mouth of the Orinoco; but the possession was neglected till 1535. The climate is said to be excellent, and remarkably free from hurricanes, which are dreadful scourges of the other American isles\*. Heavy rains prevail from the middle of May till the end of October; and there are so many rivers, that the dryness of the other half of the year is little regretted. Sometimes slight earthquakes are felt, but little dangerous. In the interior are four groups of mountains, which, with some other ridges towards the shores, are computed at a third part of the territory; the other two-thirds are said to consist of a most fertile soil. The southern coast is well adapted to the culture of coffee; and on the west is a large harbour, reputed very secure in all seasons. Here are the Spanish settlements, the largest containing only about eighty huts. The cocoa trees perished in 1727, by the force, as is said, of the northern winds; and any new plantations ought of course to be protected on that quarter by thick fences of forest trees. The total population of the isle, according to a late survey, is 17,718, of whom 10,009 are slaves.

### THE BAHAMA, OR LUCAYOS ISLANDS.

THESE isles, though very numerous, and some of them of considerable size, are little known. They are said to have been totally deserted when, in 1762, a few Englishmen took possession of the island which they called Providence†. But becoming a nest of pirates, a force was sent from England to subdue them; and a small regular colony established about 1720. The English in the Bahama islands are computed at three or four thousand; half being settled in Providence, where there is a fort called Nassau, and a small harbour. The few exports are cotton, dyeing woods, live turtle, and salt. The soil seems to be naturally barren; and the narrow length of these isles, much exposed to the heat and the winds, accounts for their comparative insignificance in this grand commercial archipelago.

The French settlements of Guadaloupe and Martinique were of considerable importance, these islands being of larger size than any others of the Carribees. Guadaloupe is of a remarkable form, being divided into two parts by a narrow channel, only navigable by boats. The well known products of these islands are sugar, cotton, indigo, ginger, and various fruits. Martinique is also celebrated for a distillery of liqueurs. The town of St. Pierre is about two miles in length, and half a mile in breadth, being handsomely built with stone; and some of the shops are as brilliant as any in London or Paris.

MARTINIQUE.] After a residence of some years in Martinique, M. Thibault de Chanvalon published an account of this island, chiefly containing meteorological observations, mingled, however, with other authentic information. He observes, that there are, in appearance, only two seasons in the West Indies; what is called the winter, properly the rainy season, extending from the middle of July to the middle of October.

The French islands are in general considered as divided into two regions; the eastern part, exposed to the trade winds, being called *Cabesierre*; while the western, or leeward, is termed *Basse-terre*.

\* Raynal, iv. 101.

† Ib. iv. 105.

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There are in Martinique only three mountains of considerable height, the highest being that called Pelée in the western part of the island, and bearing many marks of being an extinct volcano. Vauclin, the next, is of far inferior elevation, and almost entirely covered with coffee plantations. The inferior chains branch out in all directions. The lands in the neighbourhood of Mount Pelée seem, in the opinion of our author, to consist chiefly of pumice, either in lumps or powder, as are most of those on the north and west. In riding over these grounds, they resound as if hollow, a circumstance which also occurs in the wide volcanic tracts of the Andes. In the south of the island the soil is greatly variegated. The pumice lands soon imbibe the rain; but where there are woods, the climate becomes unhealthy from the humidity; and in moist climates the neighbourhood of trees is pernicious to health.

Quarries of free-stone are rare at Martinique, and blocks of lava are used. Lime was made with the madrepores and sea shells. No mines had been discovered, but a ferruginous sand, often a volcanic production, had been observed on the shore near Mount Pelée.

The chief river seems to be that called the Galion, in the north-eastern part of the island.

The inhabitants are whites, Caribs, and negroes. Our author's character of the former approaches to that of our West Indians, generally thoughtless, lively, precipitate, and self-willed; but at the same time frank, brave, and generous.

Though the seat of the government be at Martinique, Guadaloupe is the largest and most important of the French Caribbee islands. In the *Histoire Generale des Voyages*, Prevost has given a minute account of this island, which cannot, however, be much praised for its accuracy. It is divided into two portions in a very singular manner by a small arm of the sea running N. and S., the portion on the N. E. being called *La Grande Terre*, and the other on the S. W. the *Basse Terre*, but more generally Guadaloupe. On the western shore, Labet describes a singular phenomenon, the sea being so hot, at a small distance from the shore, as to boil eggs; and on moving the sand a strong odour of sulphur is perceived. There is also a boiling fountain, and a hot marsh, the last of which is very deceitful and dangerous to strangers.

### *Botany of the West Indies.*

THE West Indian islands, from their tropical situation, and the great height of their mountains, command a large extent of temperature, and contain a proportional variety of native vegetables. We are far however from possessing a complete flora of these countries; activity in scientific research is not very congenial either with the manners, or the commercial engagements of the inhabitants; and the pestilential exhalations from the swamps, and the pathless intricacies of the forests, "strangled with waste fertility," that on all sides gird the mountains, may well dispirit the most adventurous naturalist.

Several of those giant sons of the forest that were noticed in the botany of India grow wild in these islands, and equal in stateliness their oriental brethren. Such are the Indian fig or banyan tree, at first a feeble stem, twining for support round some neighbouring plant, but in the course of years becoming a grove by itself; the wild cotton tree, the logwood;

and the locust tree, most grateful in these torrid regions by its night of shade. Scarcely inferior to these are the wide-spreading mahogany, the brasiletto, and the cabbage palm, the tallest of all vegetables, rising sometimes in a straight majestic column to the height of nearly two hundred feet. The tamarind tree is distinguished for its airy elegance, and its acid pods, of no mean estimation in this sultry climate. The *laurus chloroxylum*, or cog wood, is of high value in mill work; and the iron wood, the Barbadoes cedar, and a species of cordia, known in the English islands by the name of Spanish elm, are in great request for durable substantial timber.

The fruits of the West Indies are deservedly celebrated for their variety and flavour; the plantations in the mountainous districts yield the apple, the peach, the fig, the grape, the pomegranate, the orange, and all the other European fruits, while the more sultry parts abound in native products that may well vie with, if they do not surpass, these adopted strangers: the pine apple, the sapota or sapadilla, the avocado pear, the cashew nut, the cocoa nut, the psidium or guava, the custard apple, the papaw, the shaddock, and the granadilla; form the principal.

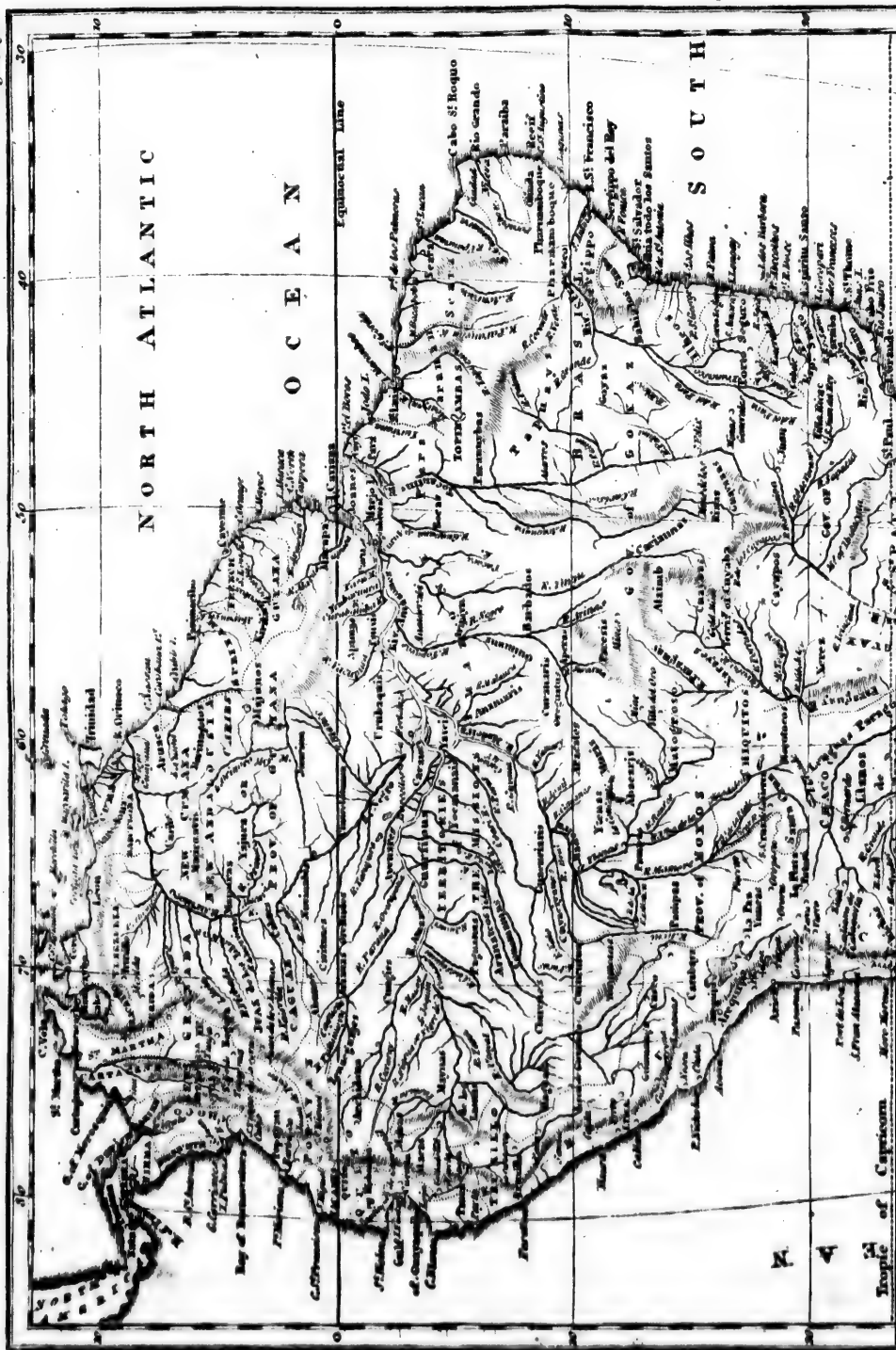
The commercial products of these islands are for the most part procured from cultivated and naturalized vegetables, which therefore can scarcely be admitted in an account of their indigenous plants. The vanilla however is found truly wild in the woods of Jamaica and St. Domingo; the aloe, though cultivated only at Barbadoes, grows spontaneously on the dry rocky soils of Cuba, the Bahamas, and many other of the islands; the bixa orellana, from which is procured the annotta, is common to the West Indies, and all the hot parts of America; and the fragrant pimento, or all-spice, is not only a genuine native, but even refuses to be propagated by human care. Of all the beautiful species of myrtle, the pimento is perhaps the most beautiful, and from the eloquent pen of Bryan Edwards it has received its merited praise; it rises in natural groves on the side of the mountains that look toward the sea, to the height of twenty or thirty feet, and as no other shrub will grow beneath its shade, it always affords a cool open walk, perfumed with the exquisite fragrance of its snowy blossoms, floating in loose clusters on its deep green foliage.

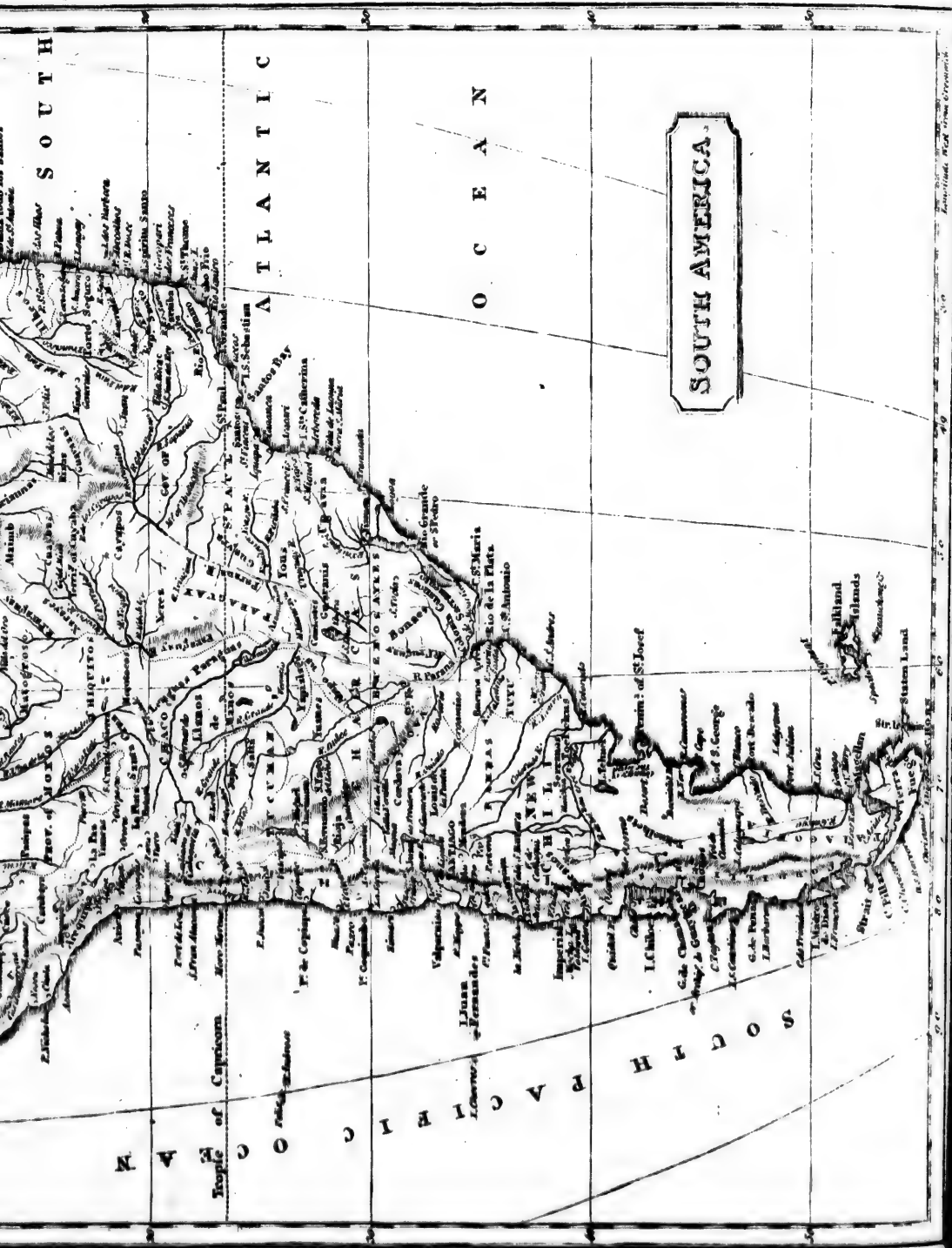
But few of the other indigenous vegetables of the West Indies are likely to interest the general reader; of these the arborescent ferns are perhaps the most striking; while the British ferns never exceed the height of three or four feet, and die to the ground at the approach of winter, those species that enjoy the perpetual summer of these islands are perennial plants; and the arborescent polypody in particular, throws up a trunk above twenty feet high, terminated by broad pinnated leaves, which gives it exactly the habit and general appearance of a palm tree.

Three plants remain to be mentioned, namely, the *guaiacum* or *lignum vitae*, of which both the resin and the wood are useful, the former in medicine, the latter as a material for pulleys and turnery ware; winterana canella, whose bark is introduced into the pharmacopœia: and cinchona Caribbea, a congenerous species of the Peruvian bark.









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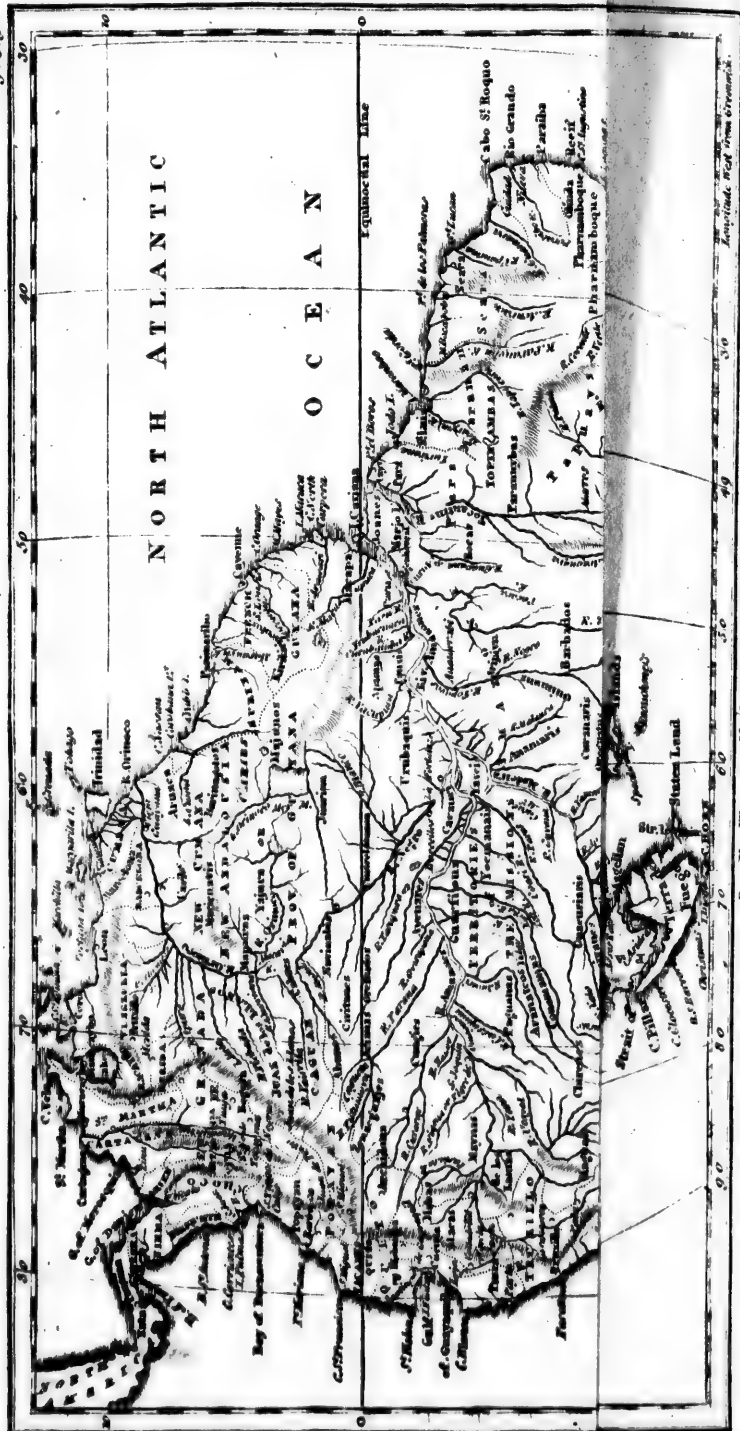
SOUTH AMERICA

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Extent. — Original

**EXTENT.** The provinces of Vera Cruz, America. But to the north, the length is at least as already mentioned.

**ORIGINAL** portion of the from Africa, which recently discovered west, could see American shores.

**PROGRESSIVELY** synonymous with the general view; wide regions impenetrable for cision can rarely and small sandy Spanish maps a diffused over the la Cruz, Canada, published by Mr. grand division.

**RELIGION.** man Catholic, few savage tribes.

**CLIMATE** beyond that of fruits; and the almost perpetual Patagonia, willow trees climate. On des constitutions theories of a zone being explains †. No spring. In

• The Nation came from the the point of pe of the Canaries cations of the the eastern the Astronomical re † Ulloa, M.

## SOUTH AMERICA.

*Extent. — Original Inhabitants. — Climate and Seasons. — Lakes. — Rivers. — Mountains.*

**EXTENT.** **T**HIS division of the new continent extends southward from the mountainous boundary between the provinces of Veragua and Panama, the latter province belonging to South America. But the land afterwards ascending considerably farther to the north, the length must be computed from about  $12^{\circ}$  of N. lat. to  $54^{\circ}$  S. lat., and yet farther if the Terra del Fuego be comprised. The length is at least sixty-six degrees, or 2960 G. miles; while the breadth, as already mentioned, is about 2880 G. miles.

**ORIGINAL POPULATION.]** The original population of this large portion of the earth remains obscure, but may most probably have been from Africa, where copper-coloured nations with long hair have been recently disclosed. The constant trade winds, blowing from east to west, could scarcely fail to impel some rash African mariners to the American shores\*.

**PROGRESSIVE GEOGRAPHY.]** The progressive geography is here synonymous with the various discoveries which have been indicated in the general view of America. Many parts of the interior are still obscure; wide regions on the great river of Amazons being covered with impenetrable forests, and others flooded by the inundations, so that precision can rarely be attained. In the south there are vast saline plains, and small sandy deserts, equally adverse to geographical certainty. The Spanish maps are likewise of noted inaccuracy. But great light has been diffused over South America by the recent large map of Don Juan de la Cruz, Cano, y Olmedilla, geographer to the king 1775, republished by Mr. Paden 1799. So recent is any exact delineation of this grand division of the New World!

**RELIGION.]** The religion of South America is in general the Roman Catholic, with the exception of the small Dutch territory, and a few savage tribes.

**CLIMATE AND SEASONS.]** The southern extremity, extending far beyond that of Africa, is exposed to all the horrors of the antarctic frosts; and Terra del Fuego in the S. lat. of  $55^{\circ}$  seems exposed to the almost perpetual winter of Greenland in N. lat.  $70^{\circ}$ . Tehuella, or Patagonia, consisting mostly of open deserts and savannas, with a few willow trees on the rivers, seems to enjoy a temperate but rather cool climate. On proceeding towards the north, the great chain of the Andes constitutes real zones and climates, which strangely contradict the theories of ancient geographers; the chief inconveniences of the torrid zone being extreme cold on the mountains, and extreme moisture in the plains†. Near Callao the months of October and November form the spring. In Peru what is called summer is the dry season, often ex-

\* The Natches of Florida seem to strengthen this theory, by their tradition that they came from the rising sun, or the east, that the voyage was long, and their ancestors on the point of perishing when they discovered America. Du Roi, ii. 118. The natives of the Canaries are said to have been extremely tall, and may perhaps have been the ancestors of the Tehuels, called by Europeans Patagonians, who always bury their dead on the eastern shores, as looking towards the country of their ancestors. See the French Astronomical voyage, 1778, 4to. tom. i. and Falkner's Patagonia.

† Ulloa, *Mémoires Philosophiques*, Paris, 1767, two vols. 8vo. l. 89.

trremely

tremely cold ; and the rainy season is called winter. The former begins in May, which is nearly the beginning of winter in the lower parts, and continues till November, when the slight fogs, called winter in the vales, begin to disperse. On the mountains, winter begins in December, which in the plains is the first month of summer ; and a journey of four hours conducts the traveller from one season to another.

In general the confined regions on the west of the Andes are dry, the clouds being arrested by their summits ; while the wide countries on the east of that chain are exposed to torrents of rain, from the eastern or trade winds blowing over the Atlantic. In Brazil the rainy season begins in March or April, and ends in August, when the spring begins, or rather the summer ; the distinction being only between wet and dry seasons\*.

**LAKES.]** South America can scarcely boast of any inland sea ; but the great river of Amazons, and that of La Plata, may be said to supply this deficiency ; and if numerously peopled by industrious inhabitants, there would be no room to complain of the want of inland navigation throughout the greater part of this ample portion of the earth. The gulfs on the S. W. extremity containing the isles of Chiloe, St. Martin, &c. are of small consequence, and in a remote and disadvantageous position. No part of the globe displays so great a number of lakes as North America ; and the southern part of the new continent is perhaps equally remarkable by their rarity. Many supposed lakes, as that of Zarayos or Sharayos, in the course of the river Paraguay, only exist during the annual inundations, which are on a far grander scale than those of the Ganges, and may be said to deluge whole provinces. In the most northern part the Lagoon of Maracaybo is remarkable, being a circular basin about 100 B. miles in diameter, receiving numerous rivers and rivulets, and communicating with the sea by a considerable creek. The celebrated lake Parima, called also Paranapitica, or the White Sea, is represented by La Cruz as more than 100 B. miles in length by 50 in breadth. This size, and even its existence, have been doubted, as it was the noted seat of the city El Dorado, the streets of which were paved with gold ; a fable which seems to have arisen from a rock of talc reflecting, like a mirror, the golden rays of the sun. According to La Cruz, this lake receives the Orinoco on the N. W., which afterwards emerges, and pursues a westerly course, till it finally bend north and east. The Parima also gives source to the great river of the same name, likewise called the Rio Blanco, which joins the river Negro, and great river of Amazons. In this part of South America there is, as it were, a contest betwixt land and water : and so level and mutable is the soil, that the rivers seem dubious what course to pursue, as they flow in every direction, and branches of the Orinoco communicate with the tributary rivers of the immense Marañon.

In Amazonia and Brazil there do not appear to be any lakes of consequence ; but the Portuguese are inferior even to the Spaniards in geography and natural history, and many discoveries remain to be made in their ample possessions. The lake of Titicaca, nearly in the same parallel, and in the kingdom of Peru, is regarded as the most important in South America. Ulloa says that it is of an oval figure, the circumference about 240 miles ; and the depth 70 or 80 fathoms. It receives ten or twelve rivers and several rivulets ; but the water, though not saline, is nauseous, being probably tainted with sulphur or bitumen. It contains two kinds

of fish, and is Mango Capac's son, his father here a temple dom, and pro Spanish invasion lake\*.

A few small there are two the S. of Chile with the river of the Tehuel extent of territory.

**RIVERS.]** to arms discovered by a native river, not only putation is no length : for in of China, and mated at about but the estuary exceed a mile or of surprising nature have been con provinces, like

The voyage has yet appeared ascertained. Ucaial is the supposed Marañon when the other makes a great map of La Cruz Apurimac, a river, on the west presentation before and proper river, rises from Cruz, and after a long river.

The Ucaial, Pari, and the bends sometimes. But the course more unexplored and natural history fortunately made ignorant conceals.

On the contrary described, and

\* Ulloa, ii. 165.

† Relation abrégée 1745, etc.

2. P. 69.



of fish, and is frequented by geese and wild fowl. In an isle of this lake Mango Capac, the founder of the Peruvian monarchy, reported that the sun, his father, had placed him, with his sister and consort, Oello; and here a temple was dedicated to the sun, the most splendid in the kingdom, and profusely decorated with plates of gold and silver. On the Spanish invasion these treasures are said to have been thrown into the lake\*.

A few small lakes are found near the course of the river Parana; and there are two large lagoons on the eastern coast, lat.  $31^{\circ} 33'$ . Towards the S. of Chili there are some lakes of considerable size, communicating with the river of Sauzes, or Willows, one of them being called the lake of the Tehuels: and a few small lakes farther to the S. are saline, a wide extent of territory being impregnated with nitre.

RIVERS.] The river of Amazons, so called from a female tribe inured to arms discovered on its banks, by the first navigators, but more properly by a native term the Marañon, is celebrated as the most distinguished river, not only in South America, but in the whole world: and this reputation is no doubt just, when its magnitude is considered, as well as its length: for in the latter attribute it seems to be rivalled by the Kian Ku of China, and perhaps by the Ob of Siberia: The length may be estimated at about 2300 miles; and that of the Rio de la Plata about 1000, but the estuary of the Ob is frozen, and that of the Kian Ku cannot exceed a mile or two in breadth, while the two grand American rivers are of surprising magnitude. The Chinese annals say that their great rivers have been confined by art, while in ancient times they inundated whole provinces, like the Marañon.

The voyage of Condamine contains the most accurate description which has yet appeared of this grand river†. The source is not yet absolutely ascertained. The celebrated mathematician, just quoted, says that the Ucaia is the chief stream, as its sources are more remote than those of the supposed Marañon; and it is a considerable river in the same parallel, when the other is only a torrent‡. On the other hand the Marañon makes a greater circuit, and is of extraordinary depth. In the valuable map of La Cruz, what he calls the *ancient* Marañon, or Pari, receives the Apurimac, a river of far longer course, rising near the town of Arequipa, on the west of the great lake of Titicaca, S. lat.  $16^{\circ} 30'$ . If this representation be just, there is no doubt that the Apurimac is the original and proper river of Amazons. The *new* Marañon, according to La Cruz, rises from the lake of Lauricocha, near the source of the Pari, and after a long course to the N. W. and then E. falls into this latter river.

The Ucaia, thus consisting of two main sources, the old Marañon or Pari, and the Apurimac, after passing the great chain of the Andes, bends sometimes N. W. sometimes N. E. till it receive the New Marañon. But the course of the Ucaia being through a more remote country, and more unexplored forests than that of the New Marañon, its chief features and natural history are less known; and the savages on its banks unfortunately massacred their missionary in 1695, so that we are almost wholly ignorant concerning this noble river.

On the contrary, the Lauricocha or New Marañon has been repeatedly described, and was navigated by Condamine from near the town of Jaen,

\* Ulloa, ii. 163, or tom. i. 584. of the French translation.

† Relation abrégée d'un Voyage fait dans l'intérieur de l'Amérique Méridionale, Paris, 1749, 8vo.

‡ P. 69.



where it begins to be navigable; thence passing N.E., it arrives at the exterior ridge of the Andes, which it cleaves at a pass called the Pongo, a word in the Peruvian language implying a gate. This sublime scene displays the Lauricocha confined between two parallel walls of almost perpendicular rock. From a breadth of 250 fathoms, the river is here contracted to 25; but the rapidity is not extreme, and a raft passes the two leagues in about an hour.

After the junction of these two great rivers, the Marañon, besides smaller streams, receives from the north the Napo, the Parana, Yupuro, the Great Negro which has received the Parima; and from the south the Cuchivara or Araya, and the prodigious stream called Madera, consisting of the Bene, the Mamore, and the Ytenas, the chief sources of which are from the eastern side of the Andes, watering a vast extent of this wide continent. The Madera may indeed be regarded as another grand source of the river of Amazons: which is also joined from the south by the Topaifa and Shingu, while its estuary is connected with the great Brazilian river called Tocantinas. Like the Missouri and St. Lawrence, the Marañon is discoloured with mud. The breadth at the Portuguese boundary is said to be a league, but it is generally about two miles; and no bottom is found at 103 fathoms. The effect of the tides is perceivable to the distance of 600 miles. The banks are generally crowned with vast forests of lofty trees, among which are many of a rare and medicinal nature. Serpents of prodigious size are found in the marshes, and alligators are also common. It seems certain, from Condamine, that some female warriors still exist towards the north of this great river. After it has received the Shingu, the breadth from shore to shore cannot be discovered by the eye. Near its mouth the bore rises from twelve to fifteen feet in height; and the noise of this irruption is heard at the distance of two leagues\*.

The Rio de la Plata, or river of Silver, is the conjunct flood of the Paraguay, the Pilcomayo, the Parana, and the Urucuy. The main streams are the Paraguay and the Parana; and it would seem that the latter is the longest and most considerable, rising in the great mine mountains of Brazil, lat.  $19^{\circ}$ ; and bending S. then W. till it receive the Iba Parana, after which it bends S. W. till it is joined by the Paraguay, while the conjunct rivers are still called the Parana by the natives, and the Rio de la Plata by the Spaniards. The grand cataract of the Parana is in lat.  $24^{\circ}$ , not far from the city of Cuayra; but is rather a series of rapids, for a space of twelve leagues, amidst rocks of tremendous and singular forms†. This noble river is also studded with numerous islands; and Spanish vessels navigate to the town of Assumption, about 400 leagues from the sea. On the shores are often found goods inclosing crystals; but the natural history of the Parana is nearly as obscure as that of the Ucaial. The breadth of the estuary is such that the land cannot be discovered from a ship in the middle of the stream.

The third great river in South America is the Orinoco, of a most singular and perplexed course. According to La Cruz it rises in the small lake of Ipava, N. lat.  $5^{\circ} 5'$ ; and thence winds almost in a spiral form; first passing to the S. E. it enters the lake of Parima, and issues

\* This effect called *pororoca* is chiefly observable towards the cape del Norte on the mouth of the Arouray. Condamine, p. 190.

† Dobrizhoffer, i. 206. This author, p. 189. seems rightly to assert that the Parana is the chief stream, which receives the Paraguay and Urucuy. The inundations are chiefly in December and January, rising about five or six yards above the islets. Falkner, p. 56.

by two outlets receiving the Ocean by an chief estuary. of great size there are other of Parima, wh Orinoco, the River, and the the Siaba, flow joins another Orinoco. The the Marañon, tions between when one of t authors, it was usual course of formal disquisition La Cruz, that authenticity of Parima; and like navigations, the possession of a Andalusia, one

The other river the chief being that of St. Francis of the great Parauzes, or river Chulclau and the Malouin or Falk

MOUNTAINS of the grandest lofty on the far most sublime and the Andes stretch in the southern of Darien, a few the windings of miles. The chief Quito. The breadth that given by 1735—1743, measured the highest of these and about ten mathematicians 20,280 feet: about That part of the about 2400 feet the high plain of computed height land, they still

by two outlets on the N. and S. of that lake towards the W., but after receiving the Guaviari, it bends N. then N. E. till it enter the Atlantic Ocean by an extended delta opposite to the isle of Trinidad; but the chief estuary is considerably to the S. E. of that island. Many rivers of great size flow into the Orinoco; and in addition to its singular form there are other remarkable peculiarities. From the S. E. of the lake of Parima, which seems to be a kind of inundation formed by the Orinoco, the White River, called also that of Parima, joins the Black River, and thence, the great flood of the Marañon. Another stream, the Siaba, flows from the S. W. of the lake into the Black River and joins another stream, which directly connects the Marañon with the Orinoco. There is also a communication between the Black River and the Marañon, by the Joa Parana. Hence there are three communications between these great rivers; a circumstance so uncommon, that when one of these communications only had been asserted by Spanish authors, it was rejected by geographical theorists as contrary to the usual course of nature, and Condamine was obliged to enter into a formal disquisition in order to re-establish it. A route laid down by La Cruz, that of Solano Governor of Caracas, seems to confirm the authenticity of his intelligence concerning the environs of the lake of Parima; and little doubt can remain concerning these wonderful inland navigations, thus prepared by the hand of nature, and which, in the possession of an industrious people, would render Guiana, or New Andalusia, one of the most flourishing countries in the world.

The other rivers of South America are comparatively of small account, the chief being the Magdalena, running N. to the Caribbean sea; and that of St. Francis which waters a great part of Brazil. To the S. of the great Parana there is the river Mendoza, and the Rio de los Sauces, or river of Willows; followed in the farthest south by the Chulclau and the Gallegos, the last entering the Pacific opposite to the Malouin or Falkland islands.

**MOUNTAINS.]** The mountains of South America constitute some of the grandest objects in natural geography, being not only the most lofty on the face of the globe, but intermixed with volcanoes of the most sublime and terrific description. The extent is also prodigious, the Andes stretching in one line from the capes of Ildro and Pilares, in the southern extremity of the continent, to the west side of the gulf of Darien, a space of not less than 4600 miles, as they generally follow the windings of the coast, at the medial distance of about one hundred miles. The chief summits are near the equator, not far from the city of Quito. The best account of these celebrated mountains seems to be that given by Bouguer, one of the French mathematicians, who in 1735—1743, measured a degree near the equator, and who has published two views of their appearance near Quito\*. Chimborazo, the highest of these mountains, about 100 B. miles to the S. of Quito, and about ten miles to the N. of Riobamba, was computed by these mathematicians to be 3217 French toises above the level of the sea, or 20,280 feet: about 5000 feet, or one quarter higher than Mont Blanc. That part of Chimborazo which is covered with perpetual snow is about 2400 feet from the summit. But these mountains are elevated on the high plain of Quito, which constitutes more than one third of the computed height; so that considered as mere excrescences from the land, they still yield to Mont Blanc.

\* *Figure de la Terre, Paris, 1749, 4to.*

The next in height is supposed to be the volcano called Cotopachi, estimated at about 18,600 feet, and situated about twenty five miles to the S. E. of Quito. Other grand summits are Pachincha, a few miles to the N. E. of Quito, the Akar, and Sanga to the S. E. of Chimborazo. In general the Andes here proceed in a double chain, the interval being the plain of Quito: to the western ridge belong Pichincha, Ilinissa, Chimborazo, &c., while the eastern is crowned by Cotopachi, the Altar, Sanga, &c.; and this form continues at least for about 500 miles from the south of Cuenza to the north of Popayan\*. Mineralogy was at that time an unknown science! and Bouguer only informs us that the bottom is clay, and the summit a mass of stones! The American Alps, clothed with perpetual snow, extend a great distance farther to the north towards the junction of the Cauca and Magdalena; but about two degrees to the N. of the equator they are not above one quarter the height. Farther to the south they also greatly decrease in elevation.

According to the account of Humboldt, a Prussian naturalist, who has lately visited a considerable part of South America†, there are three other remarkable chains of mountains which proceed from west to east parallel to the equator; and which by their height deserve the attention of naturalists, as much as the Carpathian mountains, or the Pyrenees, though it has been supposed that, on the east of the Andes, immense plains extend to the shores of Guiana and Brazil, and even to Buenos Ayres and Patagonia.

1. That of the northern coast, between nine and ten degrees of north latitude.

2. That of Parima, or the chain of the cataracts of Orinoco, from three to seven degrees N. lat.‡.

3. The chain of Chiquitos, between 15° and 20° of S. latitude.

The most northern, or that of the coast of Venezuela, is the most lofty, but the narrowest. From the high plain of Quito the great chain of the Andes extends, by Popayan and Choco, on the west of the river Atrato, towards the Isthmus, where on the banks of the Chagree, it only forms mountainous land about 1200 feet high. From the same Andes proceed several branches, one called the Sierra de Abibe towards the province of St. Marta§. This chain of the coast is restricted, as it approaches the gulf of Mexico, and cape of Vela, and afterwards runs due east towards the mountain of Paria, or even to the isle of Trinidad. The greatest height is in the two Sierras Nevadas of St. Marta, and of Merida||. The first being near 5000 varas or Spanish yards, and the second 5400 varas, about 14,000 feet English, above the sea. Several mountains of this chain are perhaps equal in height to Mont Blanc; perpetually covered with snow, and often pouring from their sides streams of boiling sulphureous water: and the highest peaks are solitary amidst mountains of little height, that of Merida is near the plain of Caracas, which is only 160 feet above the sea.

\* Bouguer, xxiil.

† Journal de Physique, Mémoires ix. July 1801.

‡ These cataracts are at Maypura and Atures, N. lat. 6. in the map of La Cruz; the Spanish term for a cataract being *raudal*, which rather implies a rapid.

§ The mountains of St. Marta are covered with snow and visible from the sea. Ulloa lib. i. c. i.

|| Our author's latitudes do not correspond with the map of La Cruz, who gives the Nevada of Merida between lat. 8° and 9°.

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The general with the exception The secondary limestone and calcareous point of the composition north than the 1300 toises in the of this chain belong

The second is little known, and years. This chain west to east, from N. E. of that river Orinoco, lat. 5° yet opened towards continue its course times not less than still wider, descending part of it Dorac micaceous schist the lake of Parima direction, and join to the river of S number of savages does it seem to coast; the mountain highest, and was it is a picturesque end of the rainy palm trees and broken rocks; but strata, the rocks to slate.

The third chain known to our authors It unites the Andes Paraguay, stretching provinces of Mexico the mines, and of between 15° and that of La Plata.

Between these mentioned, three Amazons, and the lat., all opening to middle valley, or that the rivers also are savannas, or grass that sometimes form or ten inches in height covered with limestone the granite every the N. W. Petri are sometimes part range of Parima

The general height of the chain of the coast is from 6 to 800 toises, with the exception of the high peaks, but lowering towards the east. The secondary mountains however to the S. of this chain, consisting of limestone and calcareous sandstone, increase in height, towards the eastern point of the continent. The chain of the coast is more steep towards the north than the south: and there is a dreadful perpendicular precipice of 1300 toises in the Silla de Caracas, above Caravelledo, the northern part of this chain being perhaps broken by the gulf of Mexico.

The second chain, that of Parima, or of the cataracts of Orinoco, is little known, and was scarcely esteemed passable till within these thirty years. This chain leaves the Andes near Popayan, and stretching from west to east, from the sources of the Guaviari, appears to extend to the N. E. of that river, forming the cataracts of Maypura and Atures in the Orinoco, lat. 5°, which are truly dreadful, but present the only passage yet opened towards the vale of Amazons. Thence this chain seems to continue its course N. E. to the river Caronis, the breadth being sometimes not less than 120 leagues. Farther to the east this range becomes still wider, descending south along the Mao, where the Dutch style a part of it Dorado, or the mountain of gold, being composed of bright micaceous schistus, which has given a like reputation to a small isle in the lake of Parima. To the east of the Esquibo this range takes a S. E. direction, and joins the granitic mountains of Guiana, which give source to the river of Surinam, and others. This wide range is inhabited by a number of savage tribes, little or not at all known in Europe. No where does it seem to rise to an equal height with the northern range of the coast; the mountain of Duida, not far from Esmeralda, is reputed the highest, and was found by Humboldt to be 1323 toises above the sea: it is a picturesque and majestic mountain, ejecting flames towards the end of the rainy season, and situated near a beautiful plain, covered with palm trees and ananas. Towards the east the chain seems to expire in broken rocks; but there is no appearance throughout of any secondary strata, the rocks being granite, gneiss, micaceous schistus, and hornblende slate.

The third chain of primitive mountains, or that of Chiquitos, is only known to our author by the accounts of those who have passed the Pampas. It unites the Andes of Peru and Chili with the mountains of Brazil and Paraguay, stretching from La Paz and Potosi and Tucuman through the provinces of Moxos, Chiquitos, and Chaco, towards the government of the mines, and of St. Paul in Brazil. The highest summits appear to be between 15° and 20°; the rivers there passing to that of Amazons, or that of La Plata.

Between these three great ridges are, according to the author already mentioned, three immense valleys, that of Orinoco, that of the river of Amazons, and that of the Pampas of Buenos Ayres, from 19° to 52° S. lat., all opening to the east, but shut on the west by the Andes. The middle valley, or that of the Amazons, is covered with forests so thick, that the rivers alone form roads; while those of Orinoco and Pampas are savannas, or grassy plains, with a few scattered palms; and so level, that sometimes for 800 square leagues there is no inequality above eight or ten inches in height. In the northern plain the primitive rock is covered with limestone, gypsum, and freestone; while in that of Amazons the granite every where rises to the day. The general inclination is to the N. W. Petrifications are uncommon even in the Andes, where there are sometimes patches of gypsum and secondary limestone; while the range of Parima consists entirely of granite and other primitive rocks.

But in a calcareous freestone of the northern ridges of the coast, Humboldt found vast numbers of shells, seemingly of recent petrification, as they are those of the sea now nine leagues distant.

A practical German mineralogist, employed for some years in the mines of Peru \*, informs us that the eastern spurs of the Andes sometimes present red and green granite, and gneiss, as towards Cordova and Tucuman : but the grand chain chiefly consists of argillaceous schistus, or various kinds of thick slate, on which, in many places, are incumbent strata of limestone, and large masses of ferruginous sandstone. Amid the argillaceous schistus, the metals sometimes occur in veins of quartz, sometimes in alluvial layers of sandstone and iron sand. Near Potosi are irregular beds of large bullets of granite; and the celebrated mountain, so rich in silver ore, is chiefly composed of a firm yellow argillaceous slate, full of veins of ferruginous quartz, in which some of the best ores are found. In passing the highest ridge of the Andes, between Potosi and Lima, Helms still found argillaceous schistus the predominant substance, in some places covered with alluvial layers of marl, gypsum, limestone, sand, fragments of porphyry, and even rock salt; yet rich silver occurs in abundance.

## SPANISH DOMINIONS

IN

### SOUTH AMERICA.

**T**HE Spanish dominions in South America, themselves an empire, are divided into three viceroyalties, La Plata, Peru, and New Granada. The inferior governments are that of Caracas, which from its position may be described in a supplement to New Granada; and Chili, itself a settlement of no small importance. The work of Estalla supplies materials sufficiently ample for a recent description of these important colonies, and shall be used as the chief foundation, the accounts in other works being often antiquated and erroneous.

## CHAPTER I.

### THE VICEROYALTY OF LA PLATA, OR BUENOS AYRES.

*Extent. — Provinces. — Government. — Revenues of Spanish America. — Population. — Manners. — Cities and Towns. — Commerce. — Natural Geography.*

**T**HIS grand viceroyalty, though erected so lately as 1778, is not only the most important of all the divisions, but that by which

\* Tagelusch oder Reiss, &c. A Journal of a Journey through Peru, from Buenos Ayres, on the great river La Plata, by Potosi to Lima, the capital of the kingdom of Peru. By Anthony Zacharias Helms, Royal Spanish director of mines, &c. pp. 300. Dresden, 1798.

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- 7 Guaranias
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the chief opulence of the Spanish dominions in South America passes to the parent country, and is interwoven with the commerce and interests of Europe. Including the savage Chiquitos and Mojos in the north, and extending to the southern limits of Tuyu and the wide plains called the Pampas, its length from the chain of Vilcanota to near the river Negro may be assumed from  $14^{\circ}$  S. lat. to near  $38^{\circ}$ , that is 24 degrees or 1440 g. miles. The breadth, which is generally pretty equal, may be computed at 12 degrees, or 720 g. miles. Estalla computes the extent at 1000 Spanish, or rather American leagues, (but seems vaguely to include Chili), and the greatest breadth at 350, forming a triangle of a thousand leagues in height, on a base of 350, equal to 175,000 square leagues; which might, he adds, support 50,000,000 persons, while there is in fact scarcely one million of civilized inhabitants, and a handful of savages.

**PROVINCES.]** Before the erection of this viceroyalty most of the jurisdiction belonged to that of Peru, although the three provinces of Buenos Ayres, Paraguay and Tucuman were considered as *Capitanias Generales*, that is the governors had an authority independent of the viceroys of Peru, except in instances of great importance and difficulty. The part of Peru now annexed to La Plata was divided into well known provinces or districts; and the missions of the Chiquitos, Mojos, and Guaranis formed three distinct governments.

When this new viceroyalty was proclaimed, the form of government remained the same, the title alone being changed. The ordinance of his catholic majesty for the subdivision of the viceroyalty was issued in 1782, and appointed nine intendancies. But in a geographical description an enumeration of the principal provinces will be the clearest method, and the progress shall be made from the south.

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|-----------------------|--------------------------------|
| 1 Pampas              | 16 Plata                       |
| 2 Tuyu                | 17 Santa Cruz de la Sierra     |
| 3 Buenos Ayres        | 18 Chayanta                    |
| 4 Cordova             | 19 Oruro and Paria             |
| 5 Cuyo and Mendoza    | 20 Carangas                    |
| 6 Charcas             | 21 Pacajes                     |
| 7 Guaranis            | 22 La Paz                      |
| 8 Paraguay            | 23 Cochabamba                  |
| 9 Chaco               | 24 Sicasica                    |
| 10 Salta              | 25 Laricaja and Omasuyos.      |
| 11 Jujuy              | 26 Chucuito                    |
| 12 Chichas and Tarija | 27 Puno or Paucarcola          |
| 13 Lipes              | 28 Lampa                       |
| 14 Atacama            | 29 Asangaro                    |
| 15 Potosi or Porco    | 30 Carabaya, the last province |

of La Plata on the N. of the great lake of Titicaca, and divided as already mentioned from the Peruvian province of Canes and Canches by the grand chain of the Cordillera called Vilcanota.

In the obscurity of the geography of the Spanish dominions, it may not be useless to offer some remarks on particular provinces, a plan which would in other cases more strictly belong to chorography.

Estalla has given brief descriptions of what he calls the upper and inferior parts of the viceroyalty. The former is peculiarly rich in the precious metals, only yielding to Mexico in this respect: he specially mentions the Cordillera of Lipes; and to Porco belong the celebrated mines of Potosi. The metals of Oruro and Paria are also celebrated. The provinces most rich in gold are Laricaja and Carabaya; while those

that produce the greatest quantity of silver are Lampa, Puno, Chucuito, Oruro, Chayanta, and Chichas, not to mention the celebrated Potosí. Carangas and Pacajes are celebrated for the breed of pacos, which are used as beasts of burden. Lampa and Afangaro are noted for the produce of wool, the sheep in the former being estimated at near a million. These districts with Chucuito also rear cattle and horses. In the provinces of Salta and Jujuy, mules form a prodigious article of trade, supposed to yield 200,000 dollars annually. Cochabamba produces abundance of wheat and maize, so as to supply Oruro, La Paz, and other upland provinces. Santa Cruz de la Sierra, which ranks among the warm regions beneath the chain of mountains, trades in honey, sugar and bees.

In the lower part of the viceroyalty, Estalla observes, that the province of Buenos Ayres comprehends three other cities, besides the capital, namely Montevideo, Corrientes, and Santa Fé. The chief products of this province are beeves and mules. Cordova is chiefly celebrated for woollen manufactories, being seated on the eastern side of a grand and high branch of the Andes. Mendoza, formerly a town of Chili, also adjoins to the mountains. The rivers in these parts are mostly torrents which swell with the rains, but at other times they are left nearly dry. Several are lost in lakes and marshes, in the wide plains of Chaco.

The name of Tucuman, according to our author, is superannuated, and that town is now in the intendency of Salta. The province of Cuyo lies amidst the mountains which extend from the great chain towards Cordova, but there are many fertile valleys; being separated from Chili by the Andes, the administration is annexed to that of Cordova. Cuyo produces in great abundance grapes, figs, pears, apples, and most kinds of European fruits, which form the chief articles of its trade. Wines, brandy, and dried fruits are also carried to Buenos Ayres, Cordova, and other parts of the four intendancies. The wines differ considerably from those of Europe, but are preferred for daily use. It is said that Mendoza and San Juan de la Frontera have exported in one year more than 20,000 barrels of wine, which brought 200,000 dollars. These with the brandies therefore form a considerable property. The mountains of Cuyo and Rioja also abound in metals; but the passes being more difficult than that of Mendoza, there is no inducement to work them\*. In the northern part of the same chain, are many flocks of the vicunas, whose wool is sometimes wrought in the country, but chiefly sent to Europe, where it is celebrated as the first of all in broad cloths, uniting the gloss of silk, with the firmness and warmth of woollen, while the native fawn-colour can scarcely be exceeded in beauty.

The villages of the Guaranis, which compose a government called that of the Missions, amount to thirty, from the river Tebiquari in Paraguay to the frontiers of Buenos Ayres, being mostly to the E. of the river Parana; the eastern borders of the Guaranis extend along Brazil, while on the W. they border on Paraguay, Corrientes, and Santa Fé.

The grand and fertile province of Paraguay has not been described by Estalla, but the defect may easily be supplied by the excellent work of Dobrzhoffer †. Though this province produces none of the preci-

\* Mendoza draws great wealth from the prodigious mine of Uspalta. See Chili.

† *Historia de Abipones*. Vienna, 1784, 3 vols. 8vo. The lively singularity of the old

ous metals, its vegetable products, cattle, and sheep of Paraguay have. Jesuits were Abipons and C

The Pampas coast on the E. Cordillera of Ayres. Towns proceeding W. are not distinct the territory of These vast plain tions, the view, diversified with which common wide tracks in trees are exten this region is o generally a bla of coarse white can scarcely p clover, and in step of a horse water, multiply through these settlements.

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ous metals, it is one of the most opulent in the new viceroyalty, from its vegetable productions, and from the prodigious herds of horses, mules, cattle, and sheep, which enliven its extensive plains. The northern parts of Paraguay have however been little explored, as the settlements of the Jesuits were chiefly in the southern skirts, and among the adjacent Abipons and Guaranis.

The Pampas, or vast plains of Buenos Ayres, extend from the sea coast on the E. to that great chain which forms the beginning of the Cordillera of Chili, about 140 leagues W. from the city of Buenos Ayres. Towards the S. they stretch about 100 leagues to a chain proceeding W. N. W. from the Atlantic. The northern boundaries are not distinctly known, but the name of Pampas is chiefly applied to the territory on the S. of Buenos Ayres, Cordova, and Mendoza. These vast plains, like the steppes of Russia, having scarcely any elevations, the view, as at sea, is terminated by the horizon. They are only diversified with paths and ditches, which collect the rain waters, and which commonly end in lakes, as there is no declivity; yet there are wide tracks in which no water is found, nor is that element pure, and trees are extremely rare, except a few shrubs round the lakes. Hence this region is only inhabited by a few wandering savages. The soil is generally a black earth, but of little depth, and is followed by a kind of coarse white chalk, so that it is difficult to form wells, as the water can scarcely pass so tenacious a substance. The chief pasturage is clover, and in the best parts, sometimes so strong as to impede the step of a horse; it is much liked by the cattle, who, when there is water, multiply prodigiously in the Pampas. The savages, who roam through these deserts, sometimes surprise Spanish caravans, and small settlements.

The province formerly called Tucuman, now divided into those of Salta and Cordova, forms an interesting part of the new viceroyalty, which Estalla has described at some length: though, being inland, it had rather escaped observation\*. These provinces are well watered, and in some places produce wild cochineal: but it would seem that this is a different species from the true cochineal. As the American tiger, or rather jaguar, abounds, travellers are deterred from further researches, especially as they might easily be lost in the perplexed and devious paths. In the jurisdiction of San Miguel of Tucuman is found the tree called *quetracho*, a name derived from its extreme hardness, which breaks the axe. The outer part is white, but the centre red; and the latter, after being steeped in water, becomes hard and heavy like stone. In the same province are found spiders, which weave a thread of great strength and beauty. A league to the S. of San Miguel is the salt river called Sali. That town is remarkable for the manufacture of a kind of cars or carts, used in transporting articles of commerce. The city of Salta is noted for a great concourse of merchants in the months of February and March, though in the rainy season the roads are scarcely passable; the surrounding vale of Lerma produces excellent wheat and abundant pasturage, but the poor are tormented with a kind

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old man's Latin is itself an amusement; and though sometimes garrulous, he is redundant in authentic and uncommon observations. His work, though bearing a restricted title is the best account yet published of the whole viceroyalty of La Plata. When the order was crushed, he seems to have ceased to have been a Jesuit.

\* 24. 189.

of leprosy. The graziers who deal in mules, and the merchants, chiefly Gallicians, are robust, and the women are remarkable for their beautiful complexions and flowing hair.

**GOVERNMENT.]** The government of the Spanish colonies in America has always been conducted with superlative prudence, except with regard to the number of the clergy and monastic institutions. The college of the Indies, generally consisting of the most enlightened men in Spain, has greatly contributed to the wisdom of the administration. While the French colonists look upon their abode in a distant country as only a temporary source to procure means of existence in France, Spain has, by a very different policy, excited the colonists to remain in the new territories, and has held out every advantage for that effect, which their avarice or vanity might have received at home. Even the titles of Castile, and the badges of knighthood, appear as brilliant in the colonies as in the parent country; and the ecclesiastic titles of archbishop and bishop have been scattered with profusion. A rich colonist may, without leaving his domains, be created a duke, a marquis, or a count; and rather chooses to display his new star among his inferiors in rank, than to lose its rays in the milky way of the Spanish grandees.

**VICEROY.]** The important government of La Plata is entrusted to a viceroy, who has also the title of captain-general, with an assessor, and a fiscal \*. There is also a secretary, in the entire confidence of the viceroy, and who retains three principal clerks. The jurisdiction of the viceroy extends to the whole political management, except the royal treasury, over which he has no authority. In the military department, he is commander in chief under the sovereign.

The assessor is also auditor, or supreme judge; and his military jurisdiction is that of captain-general of the veteran troops, for the militia is wholly subject to the viceroy. When the viceroyalty was established it was ordered that the Peruvian model should be followed; yet, among the guards, the halbardiers and cavalry have been omitted, an arrangement which diminishes the idle pomp, without injuring the power of the viceroys of La Plata. A more military style has also been adopted, the fortress at Buenos Ayres being regularly garrisoned with a detachment of grenadiers, of whom one centinel is placed at the bottom of the staircase, and the other at the door of the saloon. The want of the guard of cavalry is supplied by a select band, who regularly accompany the viceroy, two riding before and four behind, and who also carry his orders on particular occasions. The salary of the viceroy is 40,000 dollars; but after deducting the half year, and other casualties, there remain about 30,000. He is nominated for three years; and if the term be prolonged, the half year is again deducted. The salary of the assessor, fiscal and secretary is each between two and three thousand dollars. The viceroy is supreme president of the royal audience of Charcas, and also of the new royal audience, erected in 1785, at Buenos Ayres. He exercises the royal vice-patronage, and in that capacity has a grand seat and canopy in the cathedral, where he is treated with the same ceremonies as are paid to the monarch. He approves the nomination of the curates; and his jurisdiction extends to the monasteries in extraordinary cases. He confirms the election of the magistrates of the cities; and the governors of provinces are his sub-delegates. He is the supreme head of the police, and superintendent

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dant of the revenue of the post office, under the first minister of state, who is postmaster-general, throughout the Spanish monarchy.

**TREASURY, &c.]** The royal treasury acknowledges as chief the intendant of the army, a kind of paymaster-general. His salary is 10,000 dollars, and he presides over the tribunal of accounts, composed of three chief accountants. He audits all the accounts of the viceroyalty.

The intendants of the provinces manage in their jurisdictions the administration of justice, of the police, of the revenues and of war. In Paraguay, Tucuman, and Santa Cruz they joined the command of the troops. This form approaches to the ancient administration of the captains-general, except that there are more independent tribunals. The governors intendants have a salary of 6000 dollars, and 600 for the expence of the secretariate and visiting their province. The intendant of Potosi, who is also director of the mint, and of the bank, has a salary of 10,000 dollars. To assist these gentlemen in the administration of justice the king appoints an assessor, learned in the law, who is generally at the same time judge in civil and criminal causes, with an appeal to the Royal audience, as there also is from the other judges. The assessor has a salary of 1000 dollars, derived from the municipal rents, and 500 from the treasury, except those of the general intendency, who have 1000. The assessors are entitled lieutenants of the intendant governors; and as such, in case of the absence, sickness or death of the governors, decide on the four causes of justice, policy, revenue, and war, direct the municipalities, and are considered as chiefs of the government. The vice-patronage and the command of the troops are alone excepted, and submitted to the appointment of the viceroy.

In the chief villages of the Indian districts, sub-delegates may be named for the four causes. In the large Spanish villages sub-delegates are also appointed for the two causes of revenue and war; but report must be made to the intendant, while the sub-delegates over the Indians are ordinary judges in police and justice, with an appeal to the Royal audience.

A great object of the new constitution was to banish all kinds of corruption and lucre, which formerly tainted the courts of justice. The idea of re-uniting different magistracies and jurisdictions in one honourable employment, is praised by our author; nor is it burdensome to the treasury, because the salaries and emoluments of those that were suppressed are more than sufficient for the new magistracy.

Besides the nine intendancies, there are four governments in the viceroyalty of La Plata, viz. that of Montevideo, political and military; and those of the Guaranis, Chiquitos, and Mojos, who have great power military and civil. The establishments on the Patagonian coast, and the Maluinis or Falkland islands, are subject to particular instructions.

**POPULATION.]** Estalla computes the population of this viceroyalty at 1,000,000 Spaniards or creols, and an inconsiderable number of savages. The population of the two other viceroyalties probably does not exceed two millions and a half. That of Caracas, by the account of Depous, amounts to 728,000, including whites, negroes, and Indians; and Chili can scarcely exceed the number necessary to complete a million. Brazil, by the best accounts, contains 200,000 whites, and 600,000 negroes, while the natives are little more than would complete another million. These conjoined will yield five millions and a half;



nor can more than six millions be allowed for the general population of the whole of South America.

ARMY.] At Buenos Ayres there are commonly two companies of fusileers, a detachment of dragoons, and another of artillery, serving for the police of the city and the garrison of the fortress, which is a square built with stone and brick, seated on the banks of the river, and the residence of the viceroys. Besides the veteran troops there is a body of 500 men, called *Blandengs*, divided into companies. They are all natives of the country, and excellent horsemen, but little disciplined, and more skilful in the spear and the rope and ball, than in fire-arms. Their chief use is to defend the frontier; and there are also some blandengs in Santa Fé. The militia at Buenos Ayres is composed of two regiments, as at Montevideo, and both in the same blue uniform. The youth of Buenos Ayres are generally fond of a military life; the city being quite open is only defended by the fortress, but it is styled a place of arms, with a royal lieutenant, who, in the absence of the viceroy, exercises a political and military jurisdiction.

Such are the imperfect hints which Estalla has given on this important subject, though he have so amply detailed, as we have seen, the state of the military in New Spain. It seems scarcely possible that the grand viceroyalty of La Plata should be defended by such an inadequate force; and it is not improbable that at least ten or fifteen thousand men would be found in arms upon any serious invasion.

MANNERS.] According to Estalla the inhabitants of Buenos Ayres are of a sedate turn, affable, and polite. A theatre has been established, which promises to meet with success\*. Bull-fights were formerly held in the great square: but it is believed that this practice is abolished throughout the monarchy. Both sexes are handsome, with agreeable countenances, and wear the Spanish dress: the ladies are very fond of music, and in most good houses there is a harpsichord, with which they amuse themselves and the company, without having recourse to scandal, gaming, or coisbeism. Their stockings, fancifully embroidered with gold, display the shape of an elegant leg; and they chiefly please by a playful and voluptuous air. The religious processions are, as usual, very numerous and splendid.

CITIES AND TOWNS.] Among the cities in the viceroyalties of La Plata the first and chief place is due to Buenos Ayres, though exceeded in population by Potosi. This capital is situated on the W. side of the great river Parana or La Plata, which gives its name to the viceroyalty. Not forty years have elapsed since it was regarded as only the fourth city of the viceroyalty of Peru, the first rank being assigned to Lima, the second to Cuzco, and the third to Santiago of Chili†. But ten years ago Buenos Ayres only yielded to Lima, and at present probably exceeds that capital. The creation of the new viceroyalty, the rapid progress of commerce and agriculture, and many other advantages, have greatly increased the population; and its prosperity has become progressive: formerly there were no country houses, nor other fruits than a kind of peach; but at present there is no person in easy circumstances who has not a country cottage and garden, with a variety of fruits, garden plants, and flowers. In general the houses are not very high, but are convenient, well constructed, and well furnished. Both sexes being dressed in the Spanish manner, the fashions change accordingly, as may be perceived as far as the town of Jujuy; while the Spaniards in Peru

have peculiar are celebrated are not so exp and elegant.

Till 1747 th Ayres, nor th but in general to Jujuy or M be conceived. given to the p preserved in la riety of fish i attains a prodig luxury, for in snow is unknow frost, in order mate may be j evinces that th idly attributed. tember, fogs a Pamperos, or t jurious on acco times disturb numbers have d surprise, somet assault Spaniar

Buenos Ayre 52° 16' W. lon 1535, it was a sumption in Pa as a mere station of a province c and in the prin ous in the rainy the dust is rath of brick, the li any edifice tha regularity of th houses of the ri the apartments.

The cathedr the former, wh present has thre half a million o is probably now Mean time the tended to form said to contain sits of a bishop six, and conven two hospitals f There is also a head there are f

\* Estalla, xxvii. 206.

† Estalla, xi. 117.

have peculiar and hereditary dresses. The women of Buenos Ayres are celebrated among the most beautiful in America; and though they are not so expensive in their dress as those of Lima, it is more agreeable and elegant.

Till 1747 there was no establishment of couriers or posts in Buenos Ayres, nor the interior provinces. Traders occasionally sent couriers, but in general entrusted their letters to passengers who travelled in carts to Jujuy or Mendoza, whence the promptitude of the intercourse may be conceived. Meat of all kinds abounds in the city, and is sometimes given to the poor gratis. The water of the river is turbid, but when preserved in large jars is excellent, even if kept for a long time. Variety of fish is found in this majestic river, and that called the *pererey* attains a prodigious size. The want of ice is a deficiency in Spanish luxury, for in the province of Buenos Ayres, and even of Cordova, snow is unknown. A new kind of industry is exerted in collecting hoar frost, in order to refresh particular drinks. The salubrity of the climate may be judged by the catalogue of the births and deaths, which evinces that the name of Buenos Ayres, or Good Air, has not been idly attributed. Yet in the months of June and July, August and September, fogs arise from the river, to the detriment of the lungs. The *Pamperos*, or strong winds from the deserts called *Pampas*, are also injurious on account of their violence. The Indians styled *Pampas* sometimes disturb the commerce with the Peruvian provinces; but their numbers have declined, and being very cowardly, they only attack by surprise, sometimes fifty against one, as is not uncommon when Indians assault Spaniards or mulattoes.

Buenos Ayres, by the latest observations, is in S. lat.  $34^{\circ} 46'$  and in  $52^{\circ} 16'$  W. long. from the royal observatory at Cadiz. Founded in 1535, it was afterwards abandoned by the settlers, who passed to Assumption in Paraguay: but in 1580 Buenos Ayres began to be restored as a mere station; and it was not till 1620 that it became the chief town of a province called Rio de la Plata\*. The streets are broad and straight, and in the principal there is a pavement, as they are rather inconvenient in the rainy season, having little or no declivity, while during drought the dust is rather troublesome. As stone is rare, the houses are built of brick, the lime being procured from banks of shells; nor is there any edifice that deserves the epithet of magnificent; but the agreeable regularity of the buildings gives it the air of an English city. The houses of the rich have generally a vestibule, and a court surrounded by the apartments.

The cathedral is in the square, being a new structure on the site of the former, which became ruinous in the middle of last century. The present has three naves, besides several chapels; and in 1798 had cost half a million of dollars, and would cost as much to complete it, which is probably now accomplished, as the work proceeded with expedition. Mean time the church of the Jesuits served as a cathedral, but is intended to form an university. A college is opened, that of San Carlos, said to contain about 100 students. The ecclesiastical establishment consists of a bishop and some dignitaries; the parish churches amount to six, and convents are numerous, as usual in Spanish cities. There are two hospitals for orphan children, one of which receives foundlings. There is also an asylum for women of the town, and in the neighbourhood there are several hermitages and little chapels.

\* Estella, xvii. 275.

The haven on the E. can scarcely be so called, being greatly exposed, whence Montevideo may be regarded as the sea port of Buenos Ayres. The tide rises to a considerable height. The chief wall is to the north of the square: two rows of the trees called *ombus* have been recently planted, but the spot is muddy in winter, and dusty in summer. On the W. there is a great number of gardens, in which are cultivated many of the European fruits and herbs, and olives are found to thrive.

Our author was not able to procure an exact estimate of the population of this city, which is daily on the increase, but it is supposed to be about 40,000 souls, of whom the whites or Spaniards compose one half, the other half consisting of negroes, mulattoes, and some few Indians who come from other parts.

The other chief cities and towns will not demand equal attention. By the recent account of Helms, Potosi would demand the preference, having, as he asserts a population of 100,000, while Lima itself has only been estimated at 54,000; but Robertson had, from the best Spanish authorities, assigned only 25,000 to Potosi, and the same number is given by Alcedo, who is however too often antiquated in his descriptions. However this be, it may not be improper first to throw a glance on the towns in the neighbourhood of Buenos Ayres, from the recent materials of Estalla.

Montevideo is celebrated for its harbour, the most considerable and advantageous of this viceroyalty. Struck with the situation, Don Bruno de Zaballa, with fourteen or fifteen families from the isle of Palma, one of the Canaries, established himself here in 1731; since which time the population has been gradually on the increase. Santa Fé stands on the great river Parana; Corrientes was founded in 1589, and was at first greatly infested by the Abipons, so that it became necessary to establish a corps of militia in order to repress them. It has now a church and three convents.

But next in importance to the capital is the celebrated city of Potosi, supposed, as already mentioned, to contain 100,000 inhabitants. It stands in a district enclosed by the province of Porco, being very mountainous and cold, and consequently barren; yet there are sheep and some vicunas\*. The district of Potosi is bathed by the river Pilcomayo, which joins the Parana not far above Corrientes, so that there is a natural connexion between this province and Buenos Ayres. The city of Potosi was founded in 1545, on the side of a mountain of the same name, in a glen formed by a rivulet. The mint was established in 1562, and has continued richly to supply all Europe with silver; but an account of the commerce and mines is reserved for another part of this description. The numerous convents naturally followed the wealth of the city, a vow of poverty being found very compatible with great riches. There were fourteen curates in the city and the district; but seven curacies were abolished in 1759. In the neighbourhood there are warm medicinal baths, styled those of Don Diego, and greatly esteemed. In general it is believed warm springs are found in the proximity of minerals. The famous mountain of Potosi may be said to consist of one mass of silver, which the avarice and labours of 260 years have scarcely weakened. The coinage of Potosi is about 4,000,000 dollars a year. As provisions and other articles are brought from all quarters, the barrenness of the soil is little perceivable, and,

\* Alcedo in voce,

the luxuries of gold and silver. May, June, the south side circumference the residence of the comptroller and with that of the exchange of money wrote a celebrated

La Paz, in according to the inhabitants; and in the tea of Paraguri

Mendoza, was founded in the Andes. The gardens, about the city and convents, half are Spanish through the Andes of the same name be infested by the city and province other settlements adjoined to the

Chucuito is the name, otherwise convenient town the soil is fertile

Puno, on the and populous town church for the towns, or rather consequence.

five convents and it is probable that of considerable

Cochabamba, from Santa Cruz

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On returning partly owing to attached to the cattle, which they bring

Salta is celebrated which it is supposed assembled more

San Miguel of that name, is not agreeable, being

the luxuries of life naturally flock around a mountain of silver. A cold and violent wind, called *tomahavi*, reigns during the months of May, June, July, and August. The city stands on an eminence, on the south side of the mountain, and may be about two leagues in circumference\*. Potosi is by the Spanish writers styled an Imperial City, the residence of a corregidor, and of a tribunal of finance, composed of a comptroller and treasurer†. Its commerce was formerly compared with that of Lima, but is now far superior, and used to consist in the exchange of ingots of silver for the articles imported. Barba, who wrote a celebrated treatise on metallurgy, had been a curate at Potosi.

La Paz, in the same region, is also a considerable city, having, according to Helms, more than 4000 hearths, or twenty thousand inhabitants; and is an elegant and clean town, chiefly trading in the noted tea of Paraguay.

Mendoza, formerly in Chili, but joined to the new viceroyalty, was founded in 1559 in a pleasant situation, on the eastern side of the Andes. The houses are handsome, and have generally well watered gardens, abounding in fruit and pot herbs; there are many churches and convents, and Alcedo computes the families at 300, of which one-half are Spaniards and creols. There is here a celebrated passage through the Andes for travellers to Peru. Mendoza stands on a river of the same name, to the S. of the volcano of Santiago. It used to be infested by the incursions of the savage tribes of Chili; and the city and province being on the eastern side of the Andes, while all the other settlements in Chili are on the west, they became naturally adjoined to the new viceroyalty.

Chucuito is an interesting little town on the grand lake of the same name, otherwise called Titicaca; it is one of the most cheerful and convenient towns in that region; and though the climate is very cold, the soil is fertile, and there is abundance of cattle.

Puno, on the western side of the great lake of Titicaca, is a rich and populous town, with some illustrious families. There is a beautiful church for the Spaniards, and another for the Indians. The other towns, or rather villages, in the annexed Peruvian provinces are of little consequence. Oruro, noted for its mines, has, according to Alcedo, five convents and four parish churches; but the mines having declined, it is probable that a decrease has taken place. Oropesa was formerly of considerable consequence, being the capital of the province of Cochabamba, formerly styled the granary of Peru.

Santa Cruz de la Sierra is the seat of a bishopric, while it is rather to be regarded as a missionary station, than as a regular town.

On returning towards the S. the town of Jujuy has rather declined, partly owing to the litigious spirit of the inhabitants, a weakness attached to the ancient province of Tucuman: the chief trade is in cattle, which they sell to the miners of Potosi, besides some mules which they bring to the great fair of Salta‡.

Salta is celebrated for the great fair in February and March, during which it is supposed that in the adjacent valley of Lerma there are assembled more than 60,000 mules, and 4000 horses.

San Miguel of Tucuman, formerly the capital of the province of that name, is now in that of Salta. The situation is elevated and agreeable, being surrounded with fertile fields, but the population does

\* Ulloa Memoires, vol. ii. p. 269.

† Id. Voyage, i. 521.

‡ Estalla, xxi. 136.

not seem to correspond with the extent. Some mules are bred, but the chief traffic is in a kind of carts or cars, which pass to Buenos Ayres and Jujuy, the abundance of wood facilitating this manufacture \*.

Cordova, a celebrated town, the capital of a province, and residence of a bishop, is situated between the river Primero, so called because it is the first of five in the neighbourhood which flow in the same direction, and a hill, on a level but sandy soil, so that the rains speedily pass, though the vapours are unwholesome. The city approaches a square form, but the cathedral is irregular from the want of symmetry in the towers †.

The town called Assumption in Paraguay, the chief of the province, was founded in 1536, and the bishopric in 1547. For a considerable time it had the preponderance over Buenos Ayres, as mentioned in the account of that city. Besides the cathedral there are three parish churches, and four convents; but Alcedo only computes the inhabitants at 400. In the vicinity is bred abundance of cattle, sheep, horses, mules; and among the articles of cultivation are wheat, maize, sugar, tobacco, cotton, yuca, manioc, *batatas* and garden plants. Dobrizhoffer says that the houses are built of stone or brick, but only of one floor, as are the monasteries. The streets are crooked and impeded with stones and wood, while the grass grows in the chief square.

COMMERCE.] The interior commerce of this viceroyalty, as already mentioned, is conducted by the means of covered carts or little waggons drawn by oxen, and which form caravans in order to be secure against the attacks of the savages. The chief journeys are from Buenos Ayres, to Jujuy, and to Mendoza; after which stations it is necessary to have recourse to mules, as the country becomes mountainous. The load of each waggon exceeds 100 arrobas, and is commonly 150, the hire being from 70 to 150 dollars, but commonly a dollar for each arroba, on the distance of Buenos Ayres to Jujuy. This trade supports many individuals, and increases the circulation of money; and the population in the provinces of Cordova and Salta is supposed to amount to 200,000 souls, some even suppose 300,000.

AGRICULTURE.] The increase of commerce has had, as usual, a beneficial effect upon the agriculture. A royal schedule, in 1791, granted to Spaniards and foreigners the right of introducing negroes, and other instruments of agriculture. Nor is it improbable, in the opinion of our author, that this wide and fertile viceroyalty may become in a few years not only the granary of the other Spanish colonies, but of the parent country, by the extreme fertility of the soil, and the excellent regulations adopted.

NATURAL GEOGRAPHY.] The natural history of this grand viceroyalty may be traced in the recent publications of Dobrizhoffer and Helms, not to mention the writings of the Jesuits concerning Paraguay, and the works of Ulloa, which chiefly relate to the Peruvian provinces. A few circumstances less known to the English reader shall be first extracted from the recent publication of Estalla, in the order generally followed in this work. The grand rivers of Parana, or La Plata, which gives its name to the viceroyalty, and these of Paraguay and Uruguay, have been already briefly described in the general account of

\* Near St. Miguel of Tucuman there is abundance of prodigious cedars, and the timber is brought even to Buenos Ayres. Dob. i. 52.

† Estalla, xx. 129.

South America distance of 111 Ayres, there is salt; and at that it is difficult southern sides more than a league. A singularity of south, which is still higher, and this and the Ayres river Flores. fresh among the season they are other. Our annihilation is unknown be lost in the lake.

The grand lake from the shore shoals. The Indians inflated skins, Incas dedicated subject to sudden by the Spaniards mostly it would among the Incas when the Spaniards chain of gold was 233 yards in within.

MOUNTAINS chain passing regarded as a brand snow. But when sublime and more obscure, it is Mr. Humboldt with the mountains of the

\* The name Parana of his yaguar, which ib. 191. See the fish in the Parana by estreated.

The terrible rates by Dobrizhoffer, i. seen at the distance of the Iguazu is a league.

The mouth of ships from Cadiz, and the sea.

The word Paraguay Xarnes has been explained

† Estalla, xxvii.

‡ This river, according to various figures by a produce.



South America \*. To the south west of the station of Lujan, at the distance of 113 leagues, and nearly at the same distance from Buenos Ayres, there is a lake of six leagues in circumference, which is extremely salt; and at the bottom the salt is found in cakes so hard and thick that it is difficult to break them with iron tools. On the western and southern sides there are carob trees, and a kind of broom, extending for more than a league, the soil being of sand and chalk, but marshy †. A singularity of this lake is that all the streams that enter it from the south, which is upland, are salt, and those from the north, which are still higher, are sweet. Many other salt lakes appear to exist between this and the Andes of Chili, and others also on the east towards the river Flores. It is remarkable, that in this chain of lakes, a few are fresh among the greater number which are salt: and that in the rainy season they are so swelled that many of them communicate with each other. Our author conjectures that the river Mendoza ‡, whose termination is unknown, may probably bring the salt from the Andes, and be lost in the lakes.

The grand lake of Titicaca is often four to six fathoms deep not far from the shore, and towards the middle forty or fifty, without any shoals. The Indians pass in their balsas, a kind of rafts, supported by inflated skins, from isle to isle. On one of the picturesque islands, the Incas dedicated the first temple to the sun. This noble lake is however subject to sudden winds from the mountains. The fish are those styled by the Spaniards *bagres*, *omantes*, *suches*, *anchovetas*, and *boquillas*, mostly it would appear of the alpine kind. It is a constant tradition among the Indians, that great treasures were thrown into this lake when the Spaniards entered the country; and among others the great chain of gold made by command of the Inca Huayna Capac, which was 233 yards in length, and surrounded six thousand men who danced within.

MOUNTAINS OF CORDOVA.] The mountains of Cordova, being a chain passing N. and S. on the W. of that province, are by some regarded as a branch of the Andes, and said to be covered with perpetual snow. But while the orology even of the Andes themselves, the most sublime and magnificent chain of mountains in the world, remains obscure, it is no wonder that the branches are neglected. By Mr. Humboldt's account a chain of mountains unite the Andes with the mountains of Paraguay and Brazil, through the provinces of the Mojos and Chiquitos; so that this chain must wind

\* The name *Parana* signifies *confine of the sea*, Dob. i. 188. What is to be thought of his *yaguaro*, which he calls a water tiger, and says that it devours mules and horses? ib. 191. See the description, p. 330. It is dangerous in passing rivers; but there is a fish in the Parana by which swimmers are sometimes surprised to find themselves completely estrated.

The terrible cataract of the Iquasu, four leagues before it join the Parana, is described by Dobrshoffer, i. 193. This navigable river falls about thirty yards, and the vapour is seen at the distance of four leagues. At the distance of three leagues from the cataract, the Iquasu is a league in breadth.

The mouth of the Parana is said to be sixty leagues in breadth, and Spanish ships from Cadiz, mounted far above Assumption, which is four hundred leagues from the sea.

The word *Paraguay* means the crown, or a kingly stream. The fabulous lake of Xaraca has been exploded by Dobrshoffer.

† Estala, xvii. 325.

‡ This river, according to Alcedo, has pierced a hill, and formed a natural bridge, over which three waggon may pass abreast; the inside of the arch being adorned with various figures by a natural insinuation, superior in beauty to any thing that art could produce.

in a semicircular form\*. The mountains of Cordova, according to Helms, sometimes present red and green granite, and gneiss, while the grand chain of the Andes consists of argillaceous schistus. It is not wholly improbable that if the grand chain, which consists of three divisions or separate ranges of mountains, were examined by a Saussure, or other eminent investigator, a grand line of granite might be observed, though the argillaceous schistus forms the highest mountains, as in the Pyrenees the calcareous ridge greatly exceeds the granite in height; while in the other European mountains, and so far as appears in those of Asia, the grand elevations are of granite and granitic compounds.

**BOTANY.**] The botany of those provinces of this viceroyalty which formerly belonged to Peru, may be traced in the *Flora Peruana*; but of the central, southern, and eastern provinces, no formal botany has yet been published. This deficiency may be in a great degree supplied from the work of the industrious Dobrizhoffer, who has in his first volume given a general natural history of Paraguay. In extracting a few notices, the order of the original work shall be followed.

The tree which bears the quinquina or jesuit's bark is frequent among the Chiquitos, who call it *pizoes*. It is of middling growth, bearing a round fruit with two kernels. The juice is of a pleasant smell, but very bitter, and the Indians use it for some complaints arising from cold. The *sarsaparilla* is the root of a thorny plant, very common on the banks of the river Uruguay and other streams, but the best is from Honduras. On the mountains near the town of Assumption, and on the banks of some of the rivers, rhubarb is found, the leaf of the species ending in a point like those of the lily. The true jalap, or wonder of Peru, abounds in Paraguay. The mechoacan, or white rhubarb, a remedy given to children, is also found, the plant resembling the bryony. The beautiful tree called *sassafras* is said to abound in the northern parts of Paraguay; the wood is often adulterated with that of the red pine. The *palo santo* and the *guayacan*, which must not be confounded, are natives of these provinces. The latter is the taller tree, and the wood used with success in the gout, and other complaints, under the name of *guayacum*.

The algarroba or carob tree is of great utility, but the fruit differs in form, size, and colour from what is commonly sold in Europe, the tree having been brought from Africa into Spain by the Moors†. The American carob deserves European cultivation, as not only a winter supply for cattle and mules, but as affording palatable food and drink to mankind. The shell or husk is broader than that of Spain, with larger beans or seeds of a brownish colour, while the pulp is whitish and sweet. In Paraguay the shells are sometimes a span in length, and as broad as the thumb. Of this valuable tree there are several species; and it is the business of the savage women to gather it in the woods, make bread by pounding it in a mortar, or a wholesome drink by infusing it in cold water, contained in a beeve's skin, when, in about twelve hours, the fermentation commences, and the liquor, at first acid, soon becomes sweet and wholesome.

What is called the tea of Paraguay is composed of the leaves of a common tree, called by the Guaranis *caa*, dried by a slow fire; this

\* A chain of mountains girds Tucuman, Chircas, Santa Cruz de la Sierra, and Chaco, extending from Coritova towards Potosi; thence to Santa Cruz, and the lake, or rather river Mamori, in one continuous ridge. Dob. 100.

† Dobrizhoffer, i. 402, who frequently in his work uses the term *filiqua græca* for the valuable fruit of this tree, by the Germans called the bread of St. John.

tree loves a smell is very dried, and a sweetened\*.

**ZOOLOGY** exports from most elegant of France. species of the or lama, the vicuna and called them c in Spanish A

The Amer the forests to lion, is little r the former is from Buffon's from a small hoffer inform guay (the p magnitude to day before, w that of a larg an ox. Acco horses, and evince the erro the elk, the a there appears Tucuman, th a red crest, ostrich is also bourhood of Pampas. A

tain forests, an environs of S high roads, m with others at ceivable with of silver. O beetle, runs w observed dead of a boiled lob webs are wro till they are str boursers make colour being t

**MINERALOG** royalty, and as Peruvian; f were all regar of 1778. If M of La Plata

tree loves a moist soil, and somewhat resembles the orange. The smell is very sweet. The leaf, being gummy, must not be too much dried, and as the taste is somewhat bitter, the decoction must be sweetened\*.

**ZOOLOGY.]** The wool of the vicuna and guanaco are among the exports from this viceroyalty. The former is worked in Spain into most elegant and durable cloth, nor is it unknown in the manufactures of France. Naturalists now allow, that there are no less than five species of these animals, which may be called small camels, the *glama* or *lama*, the *guanaco*, the *moromoro* or *chilibueque* of the Chilese, the *vicuna* and the *paco* or *alpaco*. Gmelin in his edition of Linnæus, has called them *camelus glama*, *guanacus*, *arcuanus*, *vicugna*, *paco*, also styled in Spanish America *carneros de la tierra*, or native sheep.

The American tiger or *jaguar* is chiefly known in Paraguay, and the forests to the north; and the *puma*, by some called the American lion, is little mentioned. The latter is of a reddish brown colour, while the former is marked with black spots upon a yellowish ground. But from Buffon's account of the jaguar, it is evident that he judged only from a small animal, probably sent from French Guiana; for Dobrizhoffer informs us, that as the lions of Africa far exceed those of Paraguay (the pumas) in size and ferocity, so the African tigers yield in magnitude to those of Paraguay. He saw the skin of one killed the day before, which was three ells and two inches in length, or equal to that of a large ox; but he adds, the body is more slender than that of an ox. According to the same author, they kill and carry off oxen and horses, and he gives such singular instances of their strength as to evince the error of Buffon's theory. Other animals are, the wild cat, the elk, the ant-bear, a kind of deer, &c. In the great river Marañon, there appears to be a species of hippopotamus. In the Alps, towards Tucuman, the condor is not unfrequent: it is a kind of vulture, with a red crest, the body being black, spotted with white. A species of ostrich is also found in the wide plains of Paraguay, and in the neighbourhood of Buenos Ayres. What is called a partridge abounds in the Pampas. A serpent of prodigious size is sometimes seen in the mountain forests, and seems to approach the buio of the Orinoco. In the environs of San Miguel of Tucuman may be observed, in passing the high roads, many white threads of various sizes twisted in the trees, with others at the distance of six yards, so delicate as only to be perceivable with the reflection of the sun, when they shine like threads of silver. On these threads a kind of animal, like a very small beetle, runs with great swiftness; while on the large threads may be observed dead insects of the form of a common spider, and the colour of a boiled lobster, being the spiders in a state of transformation. The webs are wrought with exquisite art, by all the insects in their turn, till they are strong enough to catch a bird. Of these threads the labourers make cords for their hats, which are very elastic, the natural colour being that of the balls of the silk-worm.

**MINERALOGY.]** The mines form a grand object in the new viceroyalty, and are chiefly in the provinces formerly strictly considered as Peruvian; for in fact Charcas, Tucuman, and even Buenos Ayres, were all regarded as dependencies of Peru, before the grand alteration of 1778. If New Spain be excepted, the upper part of the viceroyalty of *La Plata* justly deserves the appellation given to the viceroyalty,

\* Dob. l. 112.

being the richest country in *silver* which has yet been discovered on the globe, and not to speak of Potosi, the mines of gold and silver may be said to be innumerable. Lipes, Chichas, Porco, the chain of Aullagas pervading Chayanta, Oruro, Paria, Carangas, Sicaica; in short it may be said that all the northern provinces teem with mineral opulence, while Laricaja and Carabaya are distinguished by virgin gold.

Such abundance of metals is produced in the northern parts of the viceroyalty of La Plata, that in the mint of Potosi there are annually coined about 6,000,000 dollars; and our author supposes that the contraband trade is inconsiderable, as the remittances to Spain are found to correspond with the produce; and he adds that all the mines of the viceroyalty may yield about 16,000,000 dollars: but this account must be compared with that of Helms which shall be subjoined.

Besides gold and silver, copper is found at Arbecoya near Oruro, and in the district of Lipes. A rich mine of tin is worked at Guanuni in the district of Paria; and abundant mines of lead in the province of Chichas.

The following is the state of the mines in the new viceroyalty of Buenos Ayres, as reported by Helms.

| NAMES OF PROVINCES.    |                    | Gold. | Silver. | Copper Mines. | Tin. | Lead. |
|------------------------|--------------------|-------|---------|---------------|------|-------|
| Tucuman                | -                  | 2     | 1       | 2             |      | 2     |
| Mendoza                | -                  |       | 1       |               |      |       |
| Atacama                | -                  | 2     | 2       | 1             |      | 1     |
| Lipez                  | Province of Potosi | 2     | 1       | 1             |      | 1     |
| Porco                  |                    | 1     | 2       | 1             |      |       |
| Carangas               | -                  |       | 2       | 1             |      |       |
| Pacajes or Berenguela  | -                  |       | 1       |               |      |       |
| Chucuyto               | -                  |       | 2       |               |      |       |
| Paucarcolla, Town Puno | -                  |       | 1       |               |      |       |
| Lampa                  | -                  |       | 2       |               |      |       |
| Montevideo             | -                  | 1     |         |               |      |       |
| Chichas and Tarija     | -                  | 4     | 5       |               |      | 1     |
| Cochabamba             | -                  | 1     |         |               |      |       |
| Sicaica                | -                  | 2     |         |               |      |       |
| Laricaja               | -                  | 4     |         |               |      |       |
| Omasuyos               | -                  | 4     |         |               |      |       |
| Azangaro               | -                  | 3     |         |               |      |       |
| Carabaya               | -                  | 2     | 1       |               |      |       |
| Potosi                 | -                  |       | 1       |               |      |       |
| Chayanta               | -                  | 2     | 3       | 1             | 1    | 1     |
| Misque                 | -                  |       | 1       |               |      |       |
| Paria                  | -                  |       | 1       |               | 1    | 1     |
| Total                  |                    | 30    | 27      | 7             | 2    | 7     |

The same author has given the following statement of the whole coinage in Spanish America, from the first day of January, to the last day of December 1790, taken from the official register.

At Mexico,  
At Lima,  
At Potosi,  
At Santiago,

Total

NATURAL  
viceroyalty, mentioned.  
Chaco, about 27° or 28°, and of native iron two from E. t raising it, it w appear from nearly 133½ F ground for ma water, nor ha around. The the ground, an gularities; pie fine silver, spe mulberry colour the smell decid mals, there are The viceroy ha found them ru hammered, and be drawn into filings and exc operation was cumstances, it tile iron, and marks whatever left the other e in other parts, is commonly in adds a consider chrysoprase hav verts semiopal i in the olive. blocks of nativ nickel, are pre from the firmar ascertained and of the earth, t continents, as i

Near Jujuy, face of Eolus, the morning wi

|                     | In Gold.       | In Silver.        | Total.            |
|---------------------|----------------|-------------------|-------------------|
| At Mexico,          | 628,044 Piaſt. | 17,435,644 Piaſt. | 18,063,688 Piaſt. |
| At Lima,            | 821,168        | 4,341,071         | 5,162,239         |
| At Potosi,          | 299,846        | 3,983,176         | 4,283,022         |
| At Santiago, Chili, | 721,754        | 146,132           | 867,886           |
| Total               | 2,470,812      | 25,906,023        | 28,376,835        |

NATURAL CURIOSITIES.] Among the natural curiosities of this viceroyalty, may be named the bridge over the river Mendoza, already mentioned. Another singular object is observable in the province of Chaco, about eighty leagues from Santiago del Estero in the lat. of  $27^{\circ}$  or  $28^{\circ}$ , and about thirty leagues from Corrientes. This is a mass of native iron, which from N. to S. is about  $3\frac{1}{2}$  varas in length, and two from E. to W. having been discovered in these directions; and on raising it, it was found to be half a vara in thickness\*. Hence it will appear from these measures, which yield 156 Spanish cubic feet, or nearly  $133\frac{1}{2}$  French, that this block will weigh about 114 quintals. The ground for many leagues in circuit is very level and sandy, and void of water, nor has any been found upon digging, yet some trees appear around. The face of this mass is open and exposed, on a level with the ground, and the rest buried. The upper face is full of rifts or irregularities; pieces hewn out with a chissel, shew a brilliant colour like fine silver, speckled with spots, yellow and red, with some of a fine mulberry colour; although there be no appearance of bitumen or salt, the smell decides the contrary, for a little furnace being put under the mass, there arose a fetid odour which spread to a considerable distance. The viceroy having received specimens, he gave some to an artisan, who found them rusty; placed in the forge they were easily joined, and were hammered, and excoriated during the operation; like any other iron, could be drawn into wire, &c. and did not lose so much as other iron. The filings and excoriated sparks were attractable by the magnet, but this operation was not tried before it was manufactured. From these circumstances, it may safely be inferred, that this mass is of pure and ductile iron, and even of a superior quality to many, while it bears no marks whatever of having been fused. The learned reader will recollect the other examples of native iron found in Siberia by Pallas, and in other parts, though rarely, by other mineralogists. This native iron is commonly interpersed with olivine or peridot, a stone which to flint adds a considerable portion of magnesia; and the green colour of the chrysoprase having been found to be owing to nickel, which thus converts semiopal into that stone, the presence of nickel may be suspected in the olivine. If this induction be just, the component parts of these blocks of native iron, as joining with that metal flint, magnesia, and nickel, are precisely the same with those of the stones which have fallen from the firmament in various countries, a phenomenon now completely ascertained and admitted by the most incredulous; and in the rotation of the earth, the largest masses may naturally be attracted by the widest continents, as in Siberia and South America.

Near Jujuy, there is a singular volcano which might appear the palace of Eolus, where the winds were imprisoned, for they rush forth in the morning with such whirls and dust, that they astonish those that are

\* Eralla, xxvii. 321.



not accustomed to the phenomenon\*. These winds, though they lose their violence in proportion to their distance from their source, are yet extremely troublesome, till the traveller pass the Quiaca, which is the first post of the jurisdiction of Chichas†. Not far from Cordova, on the banks of the river Pucara, at a place where lime is made, Dobrizhoffer assures us, that in a calm and clear night, he has heard noises resembling the firing of canon at the siege of a fortress; and people who live in the neighbourhood, assured him that this thunder was heard almost daily from the neighbouring rocks, where the air seems to be shut up, and to escape with violence by small apertures. In Cordova itself, it is common to hear in the night a dull sound, like that of a wooden pestle in a mortar. This melancholy murmur passes from street to street, and is called by the Spaniards the Pison, which signifies the rammer used by the paviours: our author, who had observed this sound for two years, does not doubt that it proceeds from a subterranean wind, for the ground on which the town stands is hollowed and rent with frequent earthquakes‡.

## CHAPTER II.

## VICEROYALTY OF PERU.

*Boundaries. — Provinces. — Peruvian History, Language and Antiquities. — Government of the Viceroyalty. — Population. — Revenues. — Cities and Towns. — Commerce. — Climate and Seasons. — Botany. — Zoology. — Mineralogy.*

THIS celebrated region is not unfamiliar even to the common reader, history and romance having diffused a peculiar glory around the incas; and the voyages of Ulloa and the French mathematicians, sent to measure a degree under the equator, are generally known: but strictly speaking these voyages were only to Quito, a detached region. Only some notices therefore, chiefly relating to the present situation of this interesting country, shall be selected; and the materials shall be principally chosen from the work of Estalla, which, amounting to forty volumes, and being written in the Spanish language, will to most readers present the charm of novelty.

BOUNDARIES.] The limits of the kingdom of Peru were greatly restricted during the course of the last century, as in 1718, the provinces of Quito in the north, as far as the river Tumbes, were annexed to the viceroyalty of New Granada, which has an easy intercourse with Europe, by the harbour of Carthagena, and the intermediate station of Havanna; and in 1778, a number of opulent provinces in the south of Peru, were allotted to the new viceroyalty of La Plata§.

Modern Peru therefore extends N. and S. from the river Tumbes to the chain of Vilcanota, being, by the computation of Estalla, 289 geographical leagues; but along the coast to the river Loa, the length

\* Estalla, xx. 139.

† Humboldt says that near the coast of Paria, in Caracas, or Cumana, there is also a noisy volcano of air.

The Hill of Faces among the Guaranis is a natural curiosity. Dob. i. 239, it is so called because the stones bear a rude resemblance to the human face.

‡ Dobriz. vol. i. 46.

§ Estalla, xx. 147.

may be 423 leagues of about 80 square.

According to the chain of Vilca S. lat. the difference that long strip Loa 21° 15', 16 miles in the northers on that of Sacramento; or S. E. with the vince and depart Chili.

PROVINCES. viceroyalty, which from S. to N.

- 1 Arica
- 2 Arequipa
- 3 Canes
- 4 Paucartambo
- 5 Chilques
- 6 Chumbivilcas
- 7 Guanacay
- 8 Aymara
- 9 Cotabambas
- 10 Cuzco
- 11 Abancay
- 12 Calca
- 13 Andahuaylas
- 14 Parí
- 15 Lucanamarca
- 16 Ica
- 17 Castrovirre
- 18 Vilcas
- 19 Huancabamba
- 20 Angaraes
- 21 Tarma

A few of the Truxillo, Tarma, and other provinces; and he has called Montaña river Ucayali or the mountains may have considerable progress of the be further illustrated of Father Girvan considerable light.

It is to be regretted that the intendancies, introduced in 1784, instead

\* Some small districts of La Cruz's map.

may be 423 leagues. The irregularity of its breadth offers a medium of about 80 leagues, so that the contents may be 33,630 leagues square.

According to the map of La Cruz, the southern extremity of the chain of Vilcanota being  $15^{\circ}$ , and the river Tumbez in  $3^{\circ} 30'$ , both S. lat. the difference of  $11^{\circ} 30'$ , will yield 690 geographical miles: but that long strip, called the province of Arica, extending to the river Loa  $21^{\circ} 15'$ , there is an addition of about  $6^{\circ} 15'$  or 375 geographical miles in the nominal length. On the N. the viceroyalty of Peru borders on that of New Granada; on the N. E. with the Pampa del Sacramento; on the E. with the savage nations of the Pajonal; on the S. E. with the viceroyalty of Buenos Ayres, which embraces the province and desert of Atacama, formerly the boundary between Peru and Chili.

PROVINCES.] The provinces, or rather districts of the Peruvian viceroyalty, which are still very numerous, are as follow, proceeding from S. to N.

- |                     |                   |
|---------------------|-------------------|
| 1 Arica             | 22 Canete         |
| 2 Arequipa          | 23 Guarobiri      |
| 3 Canes and Canches | 24 Jauja          |
| 4 Paucartambo       | 25 Tarma          |
| 5 Chilques          | 26 Canta          |
| 6 Chumbivilcas      | 27 Checras        |
| 7 Guancavelica      | 28 Huanuco        |
| 8 Aymaraz           | 29 Caxatambo      |
| 9 Cotabamba         | 30 Santa          |
| 10 Cuzco            | 31 Huaylas        |
| 11 Abancay          | 32 Conchucos      |
| 12 Calca y Lares    | 33 Pasos          |
| 13 Andahuaylas      | 34 Caxamarquilla  |
| 14 Parinacochas     | 35 Huamachuco     |
| 15 Lucanas          | 36 Truxillo       |
| 16 Ica              | 37 Sana           |
| 17 Castrovireyna    | 38 Caxamarca      |
| 18 Vilcasuaman      | 39 Chachapoyas    |
| 19 Huanta           | 40 Lamas          |
| 20 Angaraes         | 41 Luya y Chiloas |
| 21 Yauyos           | 42 Piura*.        |

A few of these provinces have been described by our author, as Truxillo, Tarma, Piura, Caxatambo, Chachapoyas, Canes and Canches; and he has greatly enlarged on the new missions to the country called *Montana Real*, on the eastern side of the Andes, towards the river Ucaia or true Marañon, and the various passages by which these mountains may be crossed in that direction. Some idea of these missions and researches has already been given in tracing the sources and progress of the grand river Marañon, and this curious subject will be further illustrated in the account of the Native Tribes; the travels of Father Girval, in 1792, and the following years having thrown a considerable light on that obscure part of America.

It is to be regretted, that our author has not given us a list of the intendancies, into which the Spanish colonies in America were divided in 1784, instead of the former *Corregimientos*, which were found too

\* Some small districts are omitted, such as Collahuas, called *Co Halmus* in the English copy of La Cruz's map, which swarms with errors.

minute, while the little magistrates were subject to ignorance and corruption\*. The intendency of Tarma, for example, comprehends eight of the above districts. The extreme northern province of Piura belongs to the intendency of Truxillo; and borders on the E. with the province of Jaen de Bracamoros, which belongs to the viceroyalty of New Granada; on the N. with Loja, belonging to the presidency of Quito; on the S. E. with Caxamarca; and on the N. E. with Guayaquil†. In the vallies of Piura, the temperature is excellent, and the sky serene; while the mountainous part towards the Andes is tempestuous, cold, and cloudy. The rains, according to our author, diminish at certain periods of six, eight, or ten years, but the longer the period, the more abundant is the fall. Melons, water melons, calabashes, cotton shrubs, and a great variety of plants and flowers decorate this province without cultivation. The river Tumbes, which bounds it on the N. springs from the snowy chain of Loja. The most noted sea port is that of Payta, taken by Anson in 1741, who disgraced his arms by burning the town, because he did not find the wealth he expected. At Tumbes, landed Pizarro, the future conqueror of Peru. On the shore of Piura is found the noted plant barilla. The old town of Tumbes, now ruined, was founded in 1531 by Pizarro, being the most ancient settlement in Peru; and the situation of the new town cannot be admired, as the sand of the sea begins to gain on the streets. The chief products are cattle and cotton; and a considerable trade is carried on in cascarilla.

The most southern inland province of the Peruvian viceroyalty is that of Canes and Canches, bounded or pervaded by the Apurimac or genuine Marañon‡. In his account of this province Estalla gives an interesting description of the Apurimac and Vilcamayo, already transcribed in discussing the sources of the Marañon. Near its source the Vilcamayo is passed by a natural bridge, the fourth example of the kind in America. This province not only abounds in cattle and sheep, but also in pacos, which multiply surprisingly in the cold and barren soil; in the heights and skirts of the Cordillera there is also a great number of guanacos, vicunas, pacochas, venados a kind of deer, viscachos a kind of rabbits, partridges, and quails, and many birds of prey: the mountains contain gold, silver, copper, loadstone, lead, tin, and even quicksilver. The name of Canes and Canches is derived from two tribes who originally held the country, and were conquered by Roca the second inca. There still exist the ruins of a temple dedicated to the idol Viracocha. The language generally spoken is the Peruvian or Quechua; the chief town Siquani contains about 6000 souls, but only 92 Spaniards; and the articles of culture are *papas*, a kind of potatoe, beans, wheat, barley. This province is governed by a judge, a delegate of the intendant of Cuzco. The judge selects the *mita* or Indians for the mines, and names the greater alcalds for each village, who with the cazics and chiefs of the Indians, elect the ordinary alcalds and other officers. The miners are judged by a delegate, named by the royal tribunal of mines at Cuzco. There is a regiment of dragoons consisting of thirteen companies. The trade is in cattle and woollen cloths to Cailloma, Arcate, Cayarani; and in the other mining stations are sold meat, *papas*, and other articles; but the weaving is the most flourishing business. The Indians bring wine,

\* See the mineralogy.

† Estalla, xxi. 5.

‡ Estalla, xxi. 90.

brandy,

brandy, and the mines of those who by as they generate melancholy, and his blessing accompanied by braces and tedious labour. It is a monarchy to find is perhaps the

PERUVIAN provinces may present limits themselves.

been matter of many marks of oneness of an Asiatic been very distinct and their name it may not be

1. *Manco*, century: declared he married her race, received founded the territory appointed virgin

2. *Sinchi-Roca*, his dominions

3. *Lloque-Ya*, kingdom, or empire

4. *Maita*, erected some edifices

5. *Capac Yupanqui*

6. *Inca-Roca*

7. *Tabuar-Roca*

8. *Inca Ripa*

vinces; and the homage at Cuzco

9. *Inca Urcu*

10. *Pachacuti*

11. *Tupangu*, in Chili; and about 1450.

12. *Tupac Yupanqui*

13. *Huayna Capac*, of Quito, which eldest son.

14. *Inti-Cusi*, ther in the neighbouring prisoner.

\* The old name of the country. In the question of mistaken question of

brandy, and cotton from the coast. Others willingly go to work in the mines of Condoroma, Arequipa, Condesuyos, and Cailloma; but those who by the royal ordinance pass to Potosi are unwilling travellers, as they generally die of asthma. The day of their departure is very melancholy, and after a solemn mass by the curate, which they pay, and his blessing, which is given gratis, they assemble in the square, accompanied by their fathers, relations, and friends; and, amidst embraces and tears, depart with their wives and children for their destined labour. It would be worthy of the generosity of the Spanish monarchy to find other means of working the mines of Potosi; and this is perhaps the only cruelty of which it can be accused.

PERUVIAN HISTORY.] This brief description of the two frontier provinces may not be uninteresting in a geographical point of view, the present limits of Peru being little understood, even by geographers themselves. From what country the ancient Peruvians proceeded has been matter of considerable disputation; but while the Mexicans bore many marks of innate African cruelty, the Peruvians display the mildness of an Asiatic tribe. The monarchs and ruling people seem to have been very distinct from the general population. The series of the incas, and their names, frequently occurring in books of voyages and histories, it may not be improper to subjoin them\*.

1. *Manco*, the first inca, is supposed to have reigned in the twelfth century: declaring himself and his sister, Oello, children of the sun, he married her, and after many laws and institutes to reclaim a savage race, received from his people the title of *Capac* or *rich in virtue*. He founded the temple of the sun at Cuzco, the capital of his empire, and appointed virgins of the royal blood to serve that divinity.

2. *Sinchi-Roca*, or Roca the Brave, son of the former. He extended his dominions about sixty miles to the south of Cuzco.

3. *Lloque-Tupangui*, who subjected many tribes, and extended his kingdom, or empire in many directions.

4. *Maita Capac*, son of the former, also subdued several districts, and erected some edifices.

5. *Capac Tupangui*, another conqueror.

6. *Inca-Roca* also subdued several little districts and tribes.

7. *Tahuar-Huacac*.

8. *Inca Ripac*, with an army of 30,000 men, conquered many provinces; and the chief of Tucma or Tucuman is said to have paid homage at Cuzco.

9. *Inca Urco*, deposed after eleven days.

10. *Pachacutec* subdued Jauja, Tarma, and other provinces.

11. *Tupangui* the third carried his conquests to the river Maull in Chili; and over the Mojos, far to the E. of the Andes. About 1450.

12. *Tupac Tupangui*, also a conqueror.

13. *Huayna Capac* subdued as far as Tumbes, nay the kingdom of Quito, which he left to Atahualpa, and his own sceptre to his eldest son.

14. *Inti-Cusi-Hualpa*. He fought a bloody battle with his brother in the neighbourhood of Cuzco, but lost the day, and was made prisoner.

\* The old name of Peru is *Tahantín*, or *Tahuantín-Suyu*, the latter word implying country. In the Quechua *peleu* is a river; and the new name was imposed from some mistaken question of the rude conquerors. There are similar errors in *Congo*, &c.

15. *Atahualpa*, the usurper, reigned at the time that Pizarro landed at Tumbez; and was made prisoner in a battle with that conqueror near Caxamarca. He was beheaded in prison, a punishment which he had inflicted on his brother and legal sovereign.

16. *Manco Capac*, crowned with permission of Pizarro at Cuzco. Afterwards defeated by the Spaniards, he retired to the mountains, and is thought to have died about 1553.

17. *Sayri Tupac*, the last of the incas, emperors of Peru. He resigned the sovereignty to Philip II. of Spain, and died a Christian, leaving only one daughter who married Onez de Loyola, a Spanish knight, from whom descend the marquises of Orepefa and Alcanifes.

From this brief recapitulation it may be perceived that the monarchy of the incas, extending from the river Tumbez  $3\frac{1}{2}^{\circ}$  (not to speak of the subjection of Quito,) to the river Maullu, in Chili  $35^{\circ}$ , that is  $31^{\circ} 30'$ , nearly 1900 g. miles, may well deserve the name of an empire; while the Mexican princes only ruled a country of about one-third of the extent, and which might be honoured by the title of a kingdom. The comparative magnificence of the Peruvian monarchs is not therefore matter of surprize. But a critical examination of the Peruvian history, and a discussion of the materials with which it is constructed, might afford a curious topic for some enterprising antiquary, who had visited the country; and the learned are far from being satisfied with the production of Garcilasso de la Vega.

Among the native nations of America the Peruvians are by far the most interesting, having in some instances advanced nearer to civilization than the Mexicans. The glama which may be called a small camel, had been rendered subservient to their industry; and their buildings erected of stone still remain, while of the earthen edifices of the Mexicans, even the ruins have perished. The history of the Peruvian monarchs is indeed vague and unsatisfactory: the noted Quipos somewhat resembling the Wampum of the North Americans, being brief and transitory records. The government of the incas was a kind of theocracy, and the inhabitants revered a divine descent not claimed by the Mexicans monarchs. The religion of the Peruvians was that of love and beneficence; while the Mexicans seem, in their cruel rites, to have been wholly influenced by the fear of malignant deities. Some sacrifices of the smaller animals, and offerings of fruits and flowers, formed the chief rites of Peruvian superstition. The Mexican monarchy was founded by the sword; the Peruvian by superiority of wisdom: and the captives taken in war were not immolated, but instructed in the arts of civilization. An excellent writer justly pronounces, that the Peruvians had advanced far beyond the Mexicans, both in the necessary arts of life, and in such as have some title to the name of elegant\*. Manures and irrigation were not unknown, though a kind of mottoc formed the chief instrument of agriculture. Their edifices were sometimes of bricks hardened in the sun; but others were constructed of large stones, the walls however never exceeding twelve feet in height. The great roads are indeed slight and perishable, when compared with European exertions, yet become wonderful when estimated with the other parts of savage America. Their weapons and ornaments also displayed no small degree of skill, particularly in cutting and piercing emeralds, a gem it must be confessed of no great hardness. Amidst all these laudable qualities, it is to be regretted, that superstition led them to sacrifice numerous

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victims on the death of a chief; and a favourite monarch was sometimes followed to the tomb by a thousand slaughtered servants. Had the conquest of America been effected by the Spaniards at a period like the present, when European warfare has lost half of its ferocity, the Peruvian monarchy might have been respected and preserved; for in the other parts of South America there is a superabundance of the precious metals to satiate the utmost wish of avarice. Whether the ruling people be chiefly cut off, or it be the mere depression of slavery, it is impossible to discover in the manners of the Peruvian natives any marks of their ancient advancement. In 1781, there was a grand rebellion in the mountainous part of Peru, conducted by a man who pretended to be a descendant of the incas, and who assumed that sacred title. He displayed the usual rage of the Americans against the Europeans; and the revolt lasted near two years, when the new inca Tupac Amaru was made prisoner with his family, and they were all quartered alive in the city of Cuzco. He had conquered the provinces of Quispicanchi, Tinta, Lampa, Azangara, Caravaja and Chumbivilcas \*.

The language of the ruling people in Peru was called the Quechua, and it is still cultivated by the Spanish clergy, as indispensable in the conversion of the natives. The sounds, *b, d, f, g, r*, are wanting; but when the Spanish grammarians add the *x*, and *z*, they forget that their own *x* is an *b* or *β*, and their *z* is equally expressed by *ç*. The grammar of this language, and it is said even that of the Tehuels, is nearly as variegated and artificial as the Greek, whence our wonder at the refinement of the Sanscrit may perhaps suffer considerable abatement.

ANTIQUITIES.] While the Mexican antiquities chiefly consist of pyramidal tombs, the Peruvian are more diversified and of greater importance. A high road is mentioned said to pass for not less than 400 leagues to the northern and southern provinces. The ruins of the temple of the sun at Cuzco are formed of stones fifteen or sixteen feet square, and which, though of the most irregular shapes, are so exactly adjusted that no void is perceivable. This is what has been called the Pelasgian style of building, being found in the most ancient monuments of Greece and Italy; and if we judge from this circumstance the Peruvians were advanced to a considerable state of barbaric civilization. Many ruins are also found of the edifices called *tambos*, where the incas lodged when they travelled. Bouguer says that the walls are often of a kind of granite, and the joints very perfect; there are sometimes even moveable rings hewn out of the stone itself. The voyage of Ulloa may be consulted for other remains. Estalla has mentioned a monument of the power of the incas, being the remains of a palace half a league from Truxillo near the sea. The practice of interring treasure in the tombs has led to their destruction; but evidences remain of canals watering the ground and artificial meadows. Subterranean passages appear leading from the fortresses, a last mean of retreat not unknown in Europe. The tombs, like those of other ancient nations, were barrows resembling natural hillocks; and in a space fenced off with stakes was placed the body, with various dresses, little images of gold, silver, copper, or clay, and various weapons and utensils: the treasures found in these tombs have sometimes been immense. In those of the women were found round mirrors made of marcasite or compact pyrites, thence called the mirror of the incas. Figures of quadrupeds, birds, and reptiles, have also been found. But such remains are better repre-

\* Humboldt, Nouv. Esp. p. 112.

fented in prints, than even the most minute description; and it is surprising that no ingenious Spanish author has published a general collection of Peruvian antiquities, a work which would do honour to the monarch and the nation.

**SPANISH GOVERNMENT.]** The government of this viceroyalty is divided like that of the others, into political and ecclesiastic. By the new constitution there are seven intendants, and fifty-two sub-delegates, dependent upon them; and all are subordinate to the viceroy. The divisions of the intendancies are only accidentally indicated even by the most recent Spanish authors. The Royal Audience, erected in 1543, is now composed of a regent, an office created in 1776, eight oidors or judges, four alcalds of the court and two fiscals, the viceroy being president. It is divided into three chambers, civil causes being judged in two by the oidors, while in the third, criminal causes are decided by the alcalds of the court. There is also a superior junta of the royal treasury, composed of the viceroy, the regent of the Royal Audience, the dean of the tribunal of accounts, and other officers. The tribunal of accounts determines causes of the revenue. It is understood that each viceroy is to give in to his successor a detailed account of his administration, and of the condition in which he leaves the country. He is also bound to remain six months after his demission, that law suits may be brought against him, in case he have committed any act of injustice.

**CHURCH.]** The archbishop of Lima, has four suffragans, the bishops of Cuzco, Arequipa, Guamanga, and Truxillo. Besides the chapters of these bishoprics, there are 557 curates of the royal presentation.

**POPULATION.]** The population of Peru never appears to have been great: and Bouguer has observed that the ruins of the ancient villages are generally at the distance of ten leagues from each other. According to Estalla the population of this viceroyalty, according to a census very recently taken, amounts to 1,076,122 persons of all sexes, conditions and denominations, being composed of the three primary distinctions, Spaniards, Indians, and negroes, from the mixture of which result various casts and colours. The number of towns and villages is computed at 1460\*.

**REVENUES.]** One of the chief sources of revenue is the coinage at Lima, which, as has been seen, amounts to more than 5,000,000 of piastras annually. The natural products may yield about 1,500,000; but while Estalla supposes that the royal treasury receives more than 4,500,000 dollars, there seems some exaggeration. The article of commerce will throw more light on this part of the subject.

**CITIES.]** The capital city of Lima, by the latest enumeration published in the *Mercurio Peruano*, has a population of 52,627; the monks and clergy being 1392, the nuns 1585. The Spaniards in general 17,215; with 3219 Indians, and 8960 negroes, the others being mixed. This celebrated city has been so often described that it is unnecessary to insist on so trivial a theme.

The chief commerce of Lima is with Valparaíso, Concepcion, and Coquimbo in the kingdom of Chili, the isle of Chiloe; and Arica, Ilo, and Pisco in the south; towards the north with Truxillo, Pacasmayo, and Payta in the viceroyalty of Peru; with Guayaquil and Panama in the viceroyalty of New Granada; and with Realejo in Guatemala, and

\* Estalla, xx, 150.

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\* The seaport tow new town or village called *Bellavista*. T defend the bay, whic all the ships anchor a

Acapulco in Mexico. This trade is conducted by ships, eleven merchant-frigates, nineteen packet-boats, and a balaño or small transport; amounting in all to 351,500 quintals of tonnage, navigated by 460 seamen. The nature of this trade is minutely explained by the author, but little adapted to the present design\*.

The royal university of St. Mark was founded in 1576, and is conducted on the plan of the Spanish universities. In the great square of Lima there is a noble fountain of bronze; and the city presents many of these useful objects. The theatre is a neat building, but the representations might display more taste. Coffee-houses only began to be opened in 1771. Cock-fighting is a favourite amusement on Sundays and festivals; nor are bull-fights unknown.

The second city of the viceroyalty of Peru is, beyond all comparison Cuzco, formerly the seat of the Peruvian monarchy. Alcedo estimates the population at 26,000, but it suffered greatly by a pestilence in 1720. Lima may be called the maritime capital of Peru, and Cuzco the inland metropolis. Proudly situated amidst the surrounding Andes, and boasting its origin from the first of the incas, Cuzco still retains the majesty of a capital. The situation is unequal, on the skirts of various mountains, watered by the little river Guatanay. The cathedral is large, rich, and handsome, and by many preferred to that of Lima; there are besides six parish churches, and nine convents. There are four hospitals, of which one is supported by the tolls of the neighbouring bridge on the Apurimac. A nunnery now stands on the situation where lived the virgins of the sun. In the college of St. Bernard are taught grammar, philosophy, and theology. The remains of the fortresses of the incas, built of irregular masses of stone, joined with considerable art; the subterranean passage which led from the palace of the incas to the fortress, of a contrivance somewhat singular; the fragments of a pavement of stone which led to Lima, are no mean monuments of antiquity. The municipality obtained great privileges from the emperor Charles V. In size Cuzco is nearly equal to Lima; on the north and west are hills forming a semicircle, but in the south and east is a plain. Ulloa describes the houses as mostly built of stone, and covered with very red tiles, the apartments being well distributed, and the doors richly gilded, while the furniture corresponded with this magnificence.

The other cities or chief towns of the viceroyalty of Peru are the three other bishoprics, already mentioned, of Arequipa, Guamanga, and Truxillo. Arica and Oropesa have declined; nor is Piura of much consequence. Truxillo seems to be one of the most important of these cities, but the situation is exposed to earthquakes, the last being that of 1759. In 1686 Truxillo was fortified against the buccaneers, constituting with Lima the only two fortified cities in the viceroyalty. Till the new system of intendancies was established in America this city was governed by a corregidor, without any authority over the eight other districts. The intendant is the chief of the municipality, which consists of two alcaldes, twelve regidores, and other officers. The revenue of the bishopric in 1788 was computed at 25,000 dollars.

\* The seaport town of Callao having been utterly destroyed by an earthquake in 1747, a new town or village was immediately founded, at the distance of a quarter of a league, and called *Bellavista*. There is a fortress called San Fernando, with a sufficient garrison to defend the bay, which in the S. W. is fenced by a barren island called San Lorenzo. Here all the ships anchor about two leagues from Lima.

The population of the whole district is computed at 12,000; that of the city at 9000. The chief products and articles of commerce are wheat and sugar\*.

Arequipa was founded by Pizarro in 1536, in the valley of Quilca, twenty leagues from the Pacific, beneath the mountain Omati covered with perpetual snow. The climate is rather dry, benign and healthy; and the houses neatly built of stone, while the river Chile bathes its fields and gardens. There is a handsome fountain of bronze in the great square, and an elegant bridge over the river. This city has repeatedly suffered from earthquakes, especially in 1785, before which time the population was computed at 30,000. Guamanga was also founded by Pizarro in 1539 in a wide and beautiful plain, watered by a river, and crowned with perpetual spring. The buildings are of stone; and thought superior to any in Peru; while the gardens, squares, and cheerful entrances of the city, decorated with trees, recommend a residence at Guamanga. The chief trade is in leather, grain, and fruit. In the district there is a fountain which, like the baths of St. Philip in Tuscany, quickly impregnates a mould with a white and transparent stone. The state of the population of these two cities is not given by Alcedo.

Guancavelica was founded in 1572 by the viceroy Don Francisco de Toledo, second son of the count d'Oropesa, whence he gave it the name of the *Villa Rica d'Oropesa*. It stands in a *quebrada* or break of the Andes, and is one of the largest and richest cities of the viceroyalty. The temperature is very cold, and the climate changeable, as it sometimes rains and freezes on the same day, with tempests of thunder, lightning, and hail. The buildings are mostly of a kind of tufa, found near a warm spring in the vicinity. There is a dangerous torrent which is passed by several bridges. A grand mine of quicksilver in the neighbourhood was discovered in 1563; it was managed by a company of forty, who delivered the quicksilver to the king at a certain price: but a fire in 1760 destroyed many of the works, and the mine is since in considerable decay.

Jauja is only remarkable for some manufactures of woollen cloths and mines of silver.

Lambayeque is in a pleasant and fertile situation, two leagues from the sea, and bathed by a river of the same name. The high road from Piura to Lima passes through this town. Some wine is made in the vicinity and the poor are occupied in weaving coarse cotton cloths. The inhabitants are estimated at more than 8000.

Caxamarca is a large and beautiful though irregular town, with more than 12,000 inhabitants, and among them many illustrious families descended from the conquerors. The Indians of Caxamarca are reputed the most industrious in the viceroyalty. The temperature is benign, and the soil fertile; and there are several mines in the neighbourhood. Here Atahualpa the last inca was slain, and a stone is still shewn in the chapel of the prison where he died, being formerly the site of his palace. Towards the east are warm baths called the baths of the Incas.

Ica is supposed to contain about 6000 souls, and is chiefly remarkable for a manufacture of glass.

Guanuco or Huanuco was founded in 1539, under the name of Leon of Guanuco, the first inhabitants being those who, in the broils of the

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\* Estalla, xx. 323.

Pizarros and Amagros followed the royal party. It was formerly a considerable city, but is now, according to Alcedo, a mean village on the royal road of the incas, with ruins of a royal palace and temple of the sun. The fruits are excellent, and the conifers much esteemed at Lima. The church, three convents, and the descendants of the conquerors, are sunk into great poverty.

COMMERCE.] The commerce of Peru has been treated with great ability and at considerable length, by Lequanda in the *Mercurio Peruano*, whence Estalla has borrowed most of his information on the recent state of this interesting country \*. The subject demands such minute details that the curious reader must be referred to the large edition of this work.

NATURAL GEOGRAPHY, &c.] The singular form of this country occasions great peculiarities in the climate. The sublime cincture of mountains, extended on the western side of South America, occasions a division into three parts, of the maritime plains or vallies; the mountains themselves; and the high table land or upland plain, between the double ridge of the Andes †. Where theory would expect perpetual rain from the influence of the tropical sun, in the lower part of Peru, on the contrary, rain is almost unknown; nay it is asserted that in the part between 5° and 15° rain has never been known to fall. The chain of the Andes, of the medial height of 14,000 feet above the sea, arrests the clouds, except during the months of January, February, and March, when the summits are covered with snow. These clouds are supposed to have been carried by the east winds from the Atlantic, but incapable of passing this barrier, they dissolve on the mountains in rain and vapours, accompanied with lightning and tremendous thunder. In the provinces unvisited by rain the wind may be said to blow constantly from the south, along the course of the Andes, corresponding with our north wind which is generally dry; the cold of the antarctic pole being equal if not superior to that of the arctic. Vegetation is supported by liberal dews throughout this region, computed at a length of 10° of latitude, or 600 g. miles; while the breadth may be twelve to fifteen leagues. Difference of climate depends as much on the elevation or depression of the country, as on zones, or latitude. While Choco is so inundated with rains as to be almost uninhabited, and the same inconvenience attends Panama, and many of the provinces of Guatemala, (an additional proof of the termination of the Andes,) Bouguer observes that from the gulf of Guayaquil to the desert of Atacama, a space of 400 leagues, rain is unknown; and the houses at Arica, like those at Lima, may be said to have no roofs, being only covered with mats, and a light sprinkling of ashes to absorb the dew of the night.

The high table land, that grand belt studded on both sides with the summits of the Andes, presents a more fertile aspect; and from its height of 10,000 feet above the sea enjoys a different climate. While the low lands are rather sandy and barren, except along the course of the rivers, the uplands may be said to enjoy a perpetual spring united with a perpetual autumn. The ferocious animals and serpents seek warmer regions, and do not incommode this earthly paradise; which however, as Providence generally balances advantages, stands on an

\* Estalla, xx. 209—321.

† The mountains of La Paz are probably the highest in the Andes. On approaching the coast at Arica, Frezier, i. 257, observed the mountain of Tacora, rearing its two summits into the clouds, being near the road towards La Paz.



insidious soil, an arch of no great solidity; while in the extensive and tremendous void beneath are stored instruments of sudden destruction, sulphur, subterranean fires and waters, and all the terrible materials of earthquakes and volcanos\*. The fields are perpetually verdant; all the grains, wheat in particular, wave in golden harvests; and the fruits of Europe blush amidst those of the torrid zone. An equal warmth, about  $14^{\circ}$  or  $15^{\circ}$  of the thermometer of Reaumur, diffuses health and vegetation; there is a perpetual equinox; and the temperature remains nearly the same, the seasons being only distinguished by the rains which fall from November to May, as in the eastern forests that skirt the Andes. The height of the mountains, it may be conceived, invests them with perpetual winter; and the intense cold which is felt on the Paramos or highest deserts, and which is described as being of a peculiar kind, may probably in part proceed from the salts with which the soil is impregnated, the nitre appearing like a light flour on the streets and highways, according to the observation of Bouguet†; who has not however drawn a striking inference, which is submitted to more experienced naturalists. May not this extreme cold, arising from an accidental cause, affect the instruments employed and the observations, and have thus led to a conclusion that the Andes are of greater height than they would otherwise be estimated? As artificial ice may be produced by nitre; it is not inconceivable that vast masses of that substance may affect even the grand appearances of nature.

FACE OF THE COUNTRY.] The immense forests which clothe the maritime plains indicate that the population has always been scanty; while theorists have, in like manner, ascribed an infinite population to ancient Germany and Scandinavia, countries overshadowed with thick forests: which is a mere contradiction in terms. These forests have their peculiar aspect, consisting of acacias, mangle trees which spread their fantastic stems and roots along the ocean; brooms and ferns in prodigious variety, with tall aloes and other succulent plants. The *ferula* or gigantic fennel grows to a surprising size, and affords a wood four or five times lighter than the lightest pine, and yet of considerable strength. Cedars of two or three kinds, cotton trees, many sorts of ebony, and other woods, alike precious by their smell, and by the perfect polish they assume under the hand of the artizan. The tallest tree is the *maria* which is used for masts; and of the palm there are ten or twelve kinds growing like enormous plants, while their broad leaves only decorate their summits. Most of the trees spread their roots along the surface, but those of the palms often rise into the air more than six or seven feet, forming a vegetable pyramid. At the distance of seven or eight leagues from the coast the trees increase in size, are often clothed with parasitical plants, and attached by enormous creepers, while the voids are filled with thorny brambles, sometimes from twenty to thirty feet in height. On passing the first chain of the Andes, which at a distance threatens to prohibit the industry or even existence of man, the traveller is surprised with the new region before described, and finds the face of the country as different as the climate.

BOTANY.] The botany of the Spanish territories east of the Andes

\* This description chiefly refers to Quito in the viceroyalty of New Granada. Though the table land continues the same, there does not appear to be any active volcano in the viceroyalty of Peru.

† Figure de la Terre, p. lxxiv.

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ZOOLOGY.] La Plata. Th [puma] and ju of great size an the French nat diminutive size confused by wr Tehuels or Pa the ancient con in size. The m night, while its A kind of deer the skin has bec merce, being fo resembling foxe *bedionda*, becau a smell, that th most ferocious The *tejon* seems sugar canes. I bare wings refer the lakes; and from destruction another aquatic

is as yet wholly unknown to European science, it is only therefore from analogy that we imagine the vegetables of these extensive countries to resemble those which are natives of Guiana and Brazil. For the indigenous plants of Peru and Chili, our only authority is the *Flora Peruviana et Chilensis* of Ruis and Pavon, and of this work not more than a fourth part is as yet published. We know, from the reports of navigators and occasional travellers, that the vicinity of the coast produces many of the tropical fruits and vegetables, such as the cabbage palm, the cocoa-nut, the chocolate-nut, the cotton shrub, the pine apple, the canna, amomum, turmeric, plantain, and sugar cane. But in the more temperate climate of the high plains, and upon the sides of the Andes, it is natural to expect plants of a hardier constitution. Perhaps the best known and most generally interesting of the trees are the several species of cinchona, from two of which, at least that valuable medicine the Peruvian or Jesuits' bark is procured. The cardana alliadora is a large timber tree, remarkable for the strong smell of garlic emitted from the leaves and fresh wood. A kind of coffee, the coffea racemosa, is met with in the mountainous groves of the interior, whose berries are applied to the same use as the cultivated species. The large flowered jessamine and datura arborea diffuse their evening fragrance round the neighbourhood of Lima, and braided in the hair of the women give and receive a reciprocal charm. No less than twenty-four species of pepper, and five or six of capicum, are reckoned among the Peruvian natives, besides several esculent kinds of solanum, of which the *S. lyco-pericon* or love-apple, and *S. tuberosum* or potatoe, are the best known and most esteemed. The tobacco and jalap abound in the groves at the feet of the Andes, and many of the ornamental flowers of our English gardens and green houses, such as the singular and beautiful calceolaria, the resplendent salvia longiflora, the graceful tropæolum or nasturtium, and the simple nolana prostrata, are indebted to these countries for their origin.

**ZOOLOGY.]** The zoology of Peru is little different from that of La Plata. The animals called the American lion and tiger, the cougar [*puma*] and jaguar of Buffon are not unknown, the latter being often of great size and strength. The theoretic and systematic dispositions of the French naturalist have led him to singular reveries concerning the diminutive size of the American animals, which have been abundantly confuted by writers of more experience and observation. And while the Tehuels or Patagons exceed in stature and strength any inhabitants of the ancient continents, the quadrupeds will also be found rarely to yield in size. The mountain cat abounds in the forests, always hunting in the night, while its eyes shine like fire, and will even attack men unawares. A kind of deer called *venados* abounds in the northern provinces, and the skin has become, at Lumbayaque and Piura, a new article of commerce, being found excellent for shoes. There are several small animals resembling foxes, and having the same propensities; one kind is called *bedionda*, because, when chased, by shaking itself it diffuses so nauseous a smell, that the hunter is forced to flee with great trepidation. The most ferocious bears are those of Piura. The *cui* is a kind of rabbit. The *tejon* seems between a dog and a wolf, and is destructive to the sugar canes. There is a sea fowl, with feathers on the body, while the bare wings resemble those of the bat. The beautiful flamingo frequents the lakes; and the brilliant plumes of the royal goose do not save it from destruction, the flesh being exquisite, as is that of the bandurria, another aquatic fowl. The camanay is sold in the markets; and our

author

author adds, that of the bones, which are blueish, there is an equal consumption. Of the fish the *peje sapo* is the most esteemed \*.

The animal called the *danta* or *gran bestia* [tapir] is known in Jaen and Caxamarca, and somewhat resembles a cow, though seldom larger than an ass. On his front is a firm horn or bone with which he opens his way among the underwood. The ant bear is another singular animal. The silk-weaving spider abounds in Jaen, and Chachapoyas, in which last province they are as large as crabs, and the teeth larger than those of a great rat †. Nor must it be forgotten that, in the newly discovered regions of the Montana Real, there is a beautiful bird called the carbuncle, about half a yard in height, of a most exquisite plumage, while the breast is beautifully spotted. The Piras, a tribe among whom it is found, call this grand bird the *inocoy* ‡.

MINERALOGY.] Though the mineralogy of the Peruvian viceroyalty has suffered a considerable diminution by the annexation of Potosi and the southern provinces to the viceroyalty of La Plata; yet the amount of the coinage of Lima, which continues to exceed that of Potosi, may evince the great opulence that remains. From the extreme province of Piura in the north, to that of Canes and Canches in the south, gold and silver follow the grand chain of the Andes. In Piura muriate of copper has been found in Hayabaca; and sixteen leagues from the town of Piura, at a village called Amatape, is a celebrated mine of pitch or bitumen, which supplied the viceroyalty for many years, the quintal being sold from thirty-five to forty dollars, but another mine having been discovered at the point of St. Helena, in the jurisdiction of Guayaquil, the former is less frequented.

The whole country of Peru may be said to be one natural curiosity. The Andes themselves, the intermediate plain, teem with the most sublime and surprising objects in nature. It is probable that the rupture of the genuine Marañon, falsely called the Ucail, through the Andes, presents a spectacle of singular grandeur; and the newly explored region called Montana Real has astonished the missionaries by the peculiarity of its productions §.

\* Estalla, xxiii. 40.

† Ib. xxi. 25.

‡ Ib. 206.

§ Among the natural curiosities of Peru must not be forgotten a very singular production of a kind of silk-worm. This caterpillar feeds on the *paca*, or *minesa inga*, a common tree in Peru. Instead of forming separate webs, they unite when they are satiated on a broad branch, or the trunk, where they form a regular and beautiful web, of a size proportioned to their number. Having completed this cloth, which has great lustre, and such consistency that it is scarcely capable of decomposition, they arrange themselves in files, so as to form in the centre a perfect square, where each makes its cocoon of a coarse short silk, and becomes a chrysalis before it transmigrates into a moth. Pineda, an eminent mineralogist in Peru, sent to the Royal cabinet at Madrid a piece of this natural silk paper, about a yard and a half in length, the common form being elliptical.

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## CHAPTER III.

## VICEROYALTY OF NEW GRANADA.

*Extent. — Provinces. — History. — Government. — Population. — Revenues. — Cities and Towns. — Commerce. — Natural Geography. — Mines of Emeralds. — Natural Curiosities. — SUPPLEMENT, Government of CARACAS.*

**EXTENT.]** THIS viceroyalty extends from the river Tumbez to the Caribbean sea; that is from S. lat.  $3^{\circ} 30'$  to N. lat.  $12^{\circ}$ , being fifteen degrees and a half, or 930 g. miles. The medial breadth may be assumed at four degrees, or 240 g. miles. The provinces forming the government of Caracas, namely Maracaibo, Venezuela, Varinas, Cumana, and Spanish Guiana, shall be briefly described in a supplement to this chapter. This grand viceroyalty, though it dates from 1718, was, after a long suppression, only finally established in 1740. As the kingdom of Quito was annexed to this viceroyalty in 1718, and at no period formed a part of Peru, it is evident, that the French and Spanish astronomers, who went in 1735 to measure a degree under the equator, have fallen into a singular mistake in geography, when they speak of their voyages to Peru: and the term would only have been just if they had visited the high table land and the summits around La Paz, indicated by Helms as the highest in the Andes. But even at present the most eminent astronomers and naturalists, too often shew their total unacquaintance with the first principles of geography.

**PROVINCES.]** The grand and opulent viceroyalty of New Granada, sometimes called from the capital that of Santa Fé, contains the following provinces.

1 *Jaen de Bracamoros.*

2 *Loja.*

3 *Cuenca.*

4 *Macas.*

5 *Riobamba.*

6 *Gnayaquil.*

7 *Quito.*

8 *Tacames.*

9 *Pastos.*

10 *Barbacoas.*

11 *Popayan.*

12 *Raposo.*

13 *Novita.*

14 *Antioquia.*

15 *Santa Fé.*

16 *San Juan de los Llanos.*

17 *Merida.*

18 *Santa Marta.*

19 *Carthagena.*

20 *Zinu.*

21 *Choco.*

The *Tierra Firmé*, comprising three districts.

22 *Darien.*

23 *Panama, or Tierra Firmé proper.*

24 *Veragua.*

The province of Jaen de Bracamoros is the most southern of the viceroyalty, and was subdued by order of Pizarro about 1540. Some gold is found in the mountains, while the plains produce cotton, excellent chocolate and tobacco. The district of Cuenca, situated on the table land of Quito, is of benign temperature, producing abundance of cattle, sugar, cotton, and grain, and has considerable manufactures of cotton cloths. The terrible earthquake of 1797, which totally ruined the city of Riobamba, so that of 9000 souls only about 400 escaped, seems not to have extended so far south as Cuenca. Macas is a considerable province on the eastern side of the Andes, whence the difference of its seasons. Though within two degrees S. lat. of the equator, the winter begins

begins in April, and lasts till September, being the season of spring on the table land. The climate is warm and moist; the chief product tobacco, with some sugar and cotton; and the cinnamon is said to excel that of Quixos on the north. Guayaquil is a celebrated commercial province: and the scientific reader is familiar with Quito, the scene of grand astronomical observations. The central provinces will be sufficiently illustrated in the general description. That of San Juan de los Llanos forms a considerable excrescence to the east, if extended as far as the Orinoco; but as the capital town is on the western skirts, the extension given by La Cruz seems very arbitrary, there being no Spanish settlements in that direction. Of the extreme provinces on the north, Veragua, though politically annexed to Tierra Firmé, geographically belongs to North America, as allowed by all the Spanish authors. The name of Tierra Firmé Proper, given to Panama, is a term adopted for the narrowest part of the American isthmus, to denote that, however narrow, it was firm land, or belonged to the continent: or rather because the name was applied indifferently to this and the adjacent province of Veragua, assigned as a dukedom to Colon\*, and were discovered by that great man to be certainly continental, when he explored the harbour of Portobello, on his fourth voyage, 1502. The province of Darien is extended on both sides of the gulf so called; and from the proximity of the city of Panama, and a considerable coast on that bay, reaches as far as the district of Zinu, with a length of shore on the Caribbean sea. The ruins of New Edinburgh are marked by La Cruz considerably to the west of the gulf of Darien, a feeble memorial of the Scottish settlement†. This province, the largest of those in the Tierra Firmé, is about 260 B. miles in length, by about 80 miles in medial breadth: but is singularly unhealthy on account of the perpetual rains, and Portobello, though an advantageous situation, is nearly ruined; nor have the Spaniards, though ready to avail themselves of advantages, been able to form any establishments either on the gulf of Darien on the Caribbean sea, or that of San Miguel on the Pacific. On the contrary, all the stations have been obliged to be withdrawn, except a little fort which protects the gold mine of Cana, on the frontiers of Choco; and the little garrison which comes from Panama, is changed every month. The only products were some cotton and tobacco. The savages of Darien are singularly wild and ferocious. In 1786 the viceroy of New Granada sent an expedition against them, but the Spanish troops could not bear the climate. The Indians are supposed to amount to 30,000 souls, without chiefs, and acknowledging no authority, so that it is impossible even to form a lasting treaty.

**HISTORY, &c.]** The ample provinces which form this viceroyalty were chiefly discovered by Queseda, and the kingdom of New Granada was at first governed by the Royal Audience, founded in 1547; and by its president the captain-general. This arrangement was changed in 1718, when the viceroyalty was erected; but it was suppressed in 1724, and only finally established in 1740. When the conquerors entered there were elective princes in Bogota and Tunja, the former being styled *zipa*, the latter *sagui* or sachem; and the country was more po-

\* The use of the Latin term *Columbus* sometimes even becomes ridiculous. Dr. Robertson has Don Diego and Don Hernando *Columbus*, thus uniting Spanish and Latin. He might as well have said Sir Francis *Drakius*. This affectation even goes so far, that a recent geographer has put *Vespusius Americanus* for Amerigo Vesputi!

† The Puerto Escondido is also called *Escozes*; and there is a cape called *Caledonia*.

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pulous than the generality of the native states. At present the want of population is regretted, as hands alone are wanting to render this viceroyalty one of the richest in America. The government is similar to that of the other viceroyalties; with a Royal Audience at Santa Fé the capital, a tribunal of accombs, a treasury, and royal mint. The Royal Audience is not divided, but sits in the same hall for civil and criminal cases; there being five judges, a fiscal, a protector of the Indians, and other officers. The governments comprehended in the Royal Audience, are Carthagena, Panama, Santa Marta, Maracaibo, and Portobello, with the district of the river Hacha: in the interior are Antioquia, Choco, Veragua, Mariquita, Giron, Neiva, and the Llanos. There is also a Royal Audience at Quito; and a governor and president, who rules the southern provinces in subordination to the viceroy of New Granada. But Quito remains a bishopric, while Santa Fé is an archbishopric, founded in 1562, with Popayan and Carthagena as suffragans. In 1783 the archbishop was named viceroy, an example of great novelty, and which proved little beneficial to the country. There are also several missions in the country called Los Llanos, and on the Apuri, Meta, and Casanari, with some little villages or stations. Those on the upper and lower Orinoco, and river Negro, assigned to the Capuchins in 1769, belong to the government of Caracas.

**POPULATION.]** The population of this viceroyalty has no where been precisely estimated, but is insinuated, as already seen, to be more scanty than that of the others. In his description of the kingdom of Quito, Alcedo has said that it contains 552,800 catholic inhabitants, not to mention the incredible number of savages; but his accuracy is far from being infallible, and he often copies ancient accounts, in which the ideas concerning population are extremely erroneous. Yet while the general population of Caracas amounts to 728,000, it is probable that rather more than one million may be allowed for that of this viceroyalty.

**REVENUES.]** The revenues yielded by this province are also left in obscurity. By the account of Estalla, there is annually coined at

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| Santa Fé to the value of | - | 1,200,000       | dollars. |
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being not more than one half of the product of the mint of Potosi, and little more than one-third of that at Lima. Of this the king's tenth will be 220,000 pounds, which is probably consumed in the expences of the government. Further lights on the revenue will arise from the article of commerce.

The state of the military force in the viceroyalty of Santa Fé has not been illustrated, but it is probably inconsiderable; and it would be difficult in such distant provinces to aggregate an effective force of five or six thousand.

**CITIES.]** The capital is Santa Fé de Bogota, or as often styled Bogota, in a situation sufficiently central, near the river Funza, which at the distance of thirty-five British miles, falls into the great river Magdalena. It was founded in 1538 by Quesada the conqueror. Though at a considerable distance to the east of the grand chain of the Andes, which passes north to the province of Carthagena, between the rivers Magdalena and Cauca; and though only four degrees from the equator, in the heart of the torrid zone of the ancients; the climate is unexpectedly

rather cold. It stands in a beautiful and spacious plain called Alcazares, and the soil is sufficiently fertile, being protected by another high ridge of mountains on the east, branching off towards the province of Santa Marta. It is a large and handsome city, the streets being broad and well laid out. There are four squares and five bridges over two little rivulets called San Francisco and San Augustin, whose clear, fresh, and healthy waters spring from the eastern mountains: and running west bathe the city and its plain, which is about twenty leagues in length, and eleven in breadth, till they join the Funza, which passes at the distance of a quarter of a league, and is also called the river of Bogota\*. The heat of the latitude being tempered by the situation, all the year may be called a perpetual spring, with such abundance of produce that there are two harvests; that called *yearly* is sown in the end of February, and gathered in July; while the *half-yearly* is sown in September and gathered in January. The usual wind is the south, here called *ubague*, from the name of a village on a mountain in that situation; and though on the north of the equator it is subtle and cold, like the winds from that quarter in South America; while on the contrary, the north wind is cloudy, humid and tempestuous†.

In the neighbourhood of this capital is the celebrated cataract called Tequendama, where the river Bogota or Funza falls from a prodigious height, and of which a description is reserved for the natural curiosities.

Before proceeding to the other principal cities, it may not be improper to give some idea of a few central towns at no great distance from the capital; and which from their position are less visited by travellers and less known to the general reader. Such are, towards the east of Bogota, Tunja, Toca, Medina, on the south, San Juan de los Llanos, Neiva; and towards the west, Tocaima, Ibague, Mariquita, and Antioquia.

Tocaima, in the immediate proximity of the capital, was founded in 1544, at some distance from the river Pati, (being the same, which nearer its source is called the Bogota‡,) not far from its confluence with the river Magdalena. The situation is bad, exposed to great heats and numerous venomous creatures; nay, it is even destitute of water, though La Cruz have placed it at the confluence of the rivers Magdalena and Pati. But the district is extremely fertile in cacao, tobacco, sugar, maize, yucas, plantains, potatoes, &c. and the fish are abundant in the rivers of Bogota and Fufagafuga, though there be many alligators. The inhabitants, about 700, are mostly poor. There are mines of excellent copper, which are not worked.

Tunja, founded in 1539, was formerly an opulent town, but has now declined, the inhabitants not exceeding 400. The edifices bear marks of former splendour, and the parish church might well serve for a cathedral. There are three convents, which might very usefully be converted into manufactories. Toca is in a cold, but healthy climate, situated in a beautiful plain, producing wheat and maize, and there are manufactures of woollen cloth; the inhabitants about 200, half being Indians. It was formerly the residence of the fourth elector of the *sagui*, or king of Tunja. Medina was founded in 1670, in a warm

\* Estalla, xii. 379. Coletti in voce.

† Estalla observes that the streets are twelve varas or yards in breadth; and the city is in length 25 manzanas or quadras, and twelve in breadth. The quadra he often uses in describing the size of cities, yet I cannot find an explanation. Ullon, i. 221, says that the quadra is commonly 100 yards, the general distance between the corner of one street and another in America; but that it is a vague measure.

‡ Estalla, xiii. 52.

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climate, abounding with wild cacao trees, maize, yucas, plantains. In the neighbourhood there is a mine of black salt, in a hard rock, used by the neighbouring villages to give to their cattle to lick.

San Juan de los Llanos is the capital of a large nominal province so called, consisting of prodigious plains, extending for two or three hundred leagues. The town was founded in 1555, and was formerly celebrated for gold mines now declined; and the inhabitants scarcely exceed fifty. Neiva was founded in 1550, but being destroyed by the Indians, was rebuilt in 1612, on the banks of the great river Magdalena. The soil is fertile; there is abundance of cattle, and some gold mines; the population being about 2000, of whom the greater part consists of people of colour. Ibaguè contain about 400 inhabitants, of whom one half are Indians. Mariquita is called a city, and was formerly celebrated for the rich mines of gold in the vicinity; there being on the west those of Bocaneme, and San Juan de Cordova, bordering on those of Hervi, Malpaso, Guarino and Puano; and on the east, the silver mines of St. Anna, Lajas and Frias; the silver, however, being mingled with the purest gold, but of difficult separation. This city, formerly opulent, is reduced to 300 inhabitants; a great disadvantage of mines in general being their failure, while those engaged in them are seldom accustomed to other branches of industry. Quesada, the conqueror of New Granada, died at Mariquita in 1597, but his body has been transferred to the cathedral of Santa Fé.

Antioquia is the capital of a province so called, highly celebrated for the rich mines of gold; but its present state and population have not been explained. This rapid glance on the interior provinces will shew, that the mines have not much benefited this viceroyalty; and there seems to be some peculiar defect either in the localities, or in the management of this part of the Spanish dominions\*.

But there are several important cities in various quarters of New Granada and its dependencies. The celebrated city of Quito, is said by Alcedo to contain not less than 58,000 inhabitants, Spaniards, creols, people of colour, and Indians; there being among the former six with the title of marquis, one with that of count, and many knights of the military orders. The creols of Quito are docile, humane, courteous, liberal, hospitable, and of considerable capacity. Even the Indians are celebrated for their skill in painting and sculpture. The temperature being uniform, the same clothing is worn throughout the year; but this advantage is balanced by the frequent earthquakes, and that of 1775 was very destructive. A body of militia has been established since the popular tumult in 1765. This celebrated city having been described by the French mathematicians, and by Ulloa, who has given a plan, it is unnecessary to enlarge on a trivial topic.

The upland plain to the south of this city, crowned with numerous volcanoes, and the high mountain of Catopachi, has been already mentioned, and frequently described as a terrestrial paradise. On the fourth day of February 1797, a quarter before eight o'clock in the morning, the most terrible earthquake commenced that had been known since the conquest†. At Quito little damage was sustained, but the subterraneous thunder, and the shocks repeated every six hours,

\* It appears from the observations of Leguanda, that all the cities and towns between Carthagena and Lima have declined since the trade by the galleons was abandoned. The government ought to invigorate them by every assistance.

† See a letter from Quito, dated 20th February 1797, published by Estella, vol. xiii. p. 243 — 254.

occasioned unceasing horrors and dismay. On the fifth, in the evening, it was known that Latacunga, and all the hamlets in its *corregimiento*, were utterly destroyed, not one stone remaining upon another. Many persons perished, and the stench of the dead bodies infected the survivors. Near Ambato many mountains split, and by their sudden fall occasioned yet greater destruction among the human race. Quero, with all its people, was buried in one instant, by a cliff which fell on the town. Pelileo was overwhelmed by a stream of water and mud; the circumjacent lands were all transposed; and the deadly silence declared the general ruin.

The elegant town of Riobamba became one heap of ruins and desolation, and soon totally disappeared; for the peak of Sicalpa falling on the town, and stopping the two rivers which pass by it, formed a lake, so that even the ruins were not visible. Of nine thousand inhabitants only about four hundred escaped. Alausi and Guaranda have also suffered greatly. The fate of Cuenca, Loja, Jaen, and Guayaquil, was at that time unknown; but the shocks do not seem to have extended so far. The cause seems to have proceeded from the volcano Tungarunga\*, as the tremendous subterraneous thunders all proceeded from that quarter, and the greatest ruin was in its vicinity: towards the north the earthquake was faintly perceived at Pasto.

Popayan, founded in 1536, on a delicious plain, is an ancient bishopric, suffragan of the archbishop of Bogota. The whole inhabitants do not exceed 8000 souls. The town is in the form of a square, with regular streets, and handsome buildings. Though rain and storms be not unfrequent, there may be said to be a perpetual spring. The driest months are June, July, and August, when the south winds blow from the snowy mountains, and high desert of Purasi, distant half a day's journey. Among abundance of fruits, the chirimoya is the most delicate, and sometimes weighs ten or twelve pounds. In the neighbourhood is a height covered with trees, called the M, because it has the form of that letter: and the town is surrounded with the river Maulino, over which there are two bridges; the great river Cauca, already deep and rapid, though not far from its source, passes at the distance of a quarter of a league; and in 1768 a bridge of one arch was thrown over a narrow part of the river. The inhabitants of Popayan are of noted integrity.

Guayaquil is another considerable city, in the southern part of this viceroyalty. It was founded in 1532; but afterwards transferred to its present position on a river of the same name. There is an unhealthy marsh in the vicinity, which infects the city with pestilential vapours, and where delinquents often escape from justice; so that the draining of this marsh, by a deep canal, is advisable on all accounts.

On advancing to the north of this viceroyalty, the towns of Panama and Portobello first solicit attention. Panama was the seat of a Royal Audience, abandoned in 1752; and the fire in 1756, and the total decline of commerce, have reduced this city to a miserable situation.

The dangers of the road between Portobello and Panama, occasioned by mountains, precipices, marshes, continual rains, horrible storms, dangerous fords, and above all the infinite number of venomous snakes, can scarcely be conceived; yet the mulattoes frequent it much on foot, and even regard the passage as a kind of amusement†. Some huts are

\* The Tungurucus of other writers, between Latacunga and Riobamba. Pasto is at the distance of about 500 g. miles.

† Estala, *ibid.* 310.

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found, where they sleep on straw, and the leaves of trees, taking care to clean the floor and stop up all passages for the snakes. The journey commonly occupies three days. Panama is still a strong city, but after its fall by the loss of the galleons, was almost completely ruined by a terrible conflagration in 1784. Its only remaining trade is with the villages in its jurisdiction, and with the province of Veragua, the goods being received by Portobello, mostly from Carthagena; the vessels from Peru commonly return empty. The neighbouring mountains produce excellent wood, especially the most esteemed mahogany (*caoba*), and cedar, with many precious balsams. The spirit of trade ridiculously maintains itself, even the chief inhabitants of both sexes selling baubles and trifles by means of their slaves; and they call this commerce, while it is rather the game of commerce. The royal chest cannot even pay the garrison, which is now defrayed from Carthagena. Some excellent gold is found in the mines, or rather *lavaderos* of Santa Rita, but the pearl fishery is almost abandoned. The voyage to Guayaquil is short and easy, and the passage of the line rather accompanied with calms, while in the Atlantic it is esteemed dangerous. This circumstance may have led to the name of the Pacific Ocean, given by the Spanish conquerors of Mexico and Peru, before Magalhaens had felt its tempests. The north pole and constellation of the Lesser Bear soon become invisible, though the needle point towards them; and the southern pole arises marked with four bright stars in the shape of a cross.

Portobello, formerly celebrated, has also declined, though in the time of the galleons a rich and populous city. The dereliction of that mode of commerce has also greatly impoverished all the cities and towns between Carthagena and Lima. Portobello however is not so sickly, since a passage was cut through a hill to admit the air\*.

Carthagena, once so celebrated, has also greatly declined. That part of the haven called *Boca Grande* seems gradually to widen by the efflux of the water, which enters by the *Boca Chica*, so that an enemy might have approached without encountering the terrible fortresses on the latter; but in the year 1777, this inconvenience was prevented by new works of surprising size and solidity. The want of a quay was also severely felt, till one was constructed by an individual, where are landed the provisions brought from Loric, the rivers Zinu, Magdalena, and other places. The city has also been increased and adorned, the new houses being of elegant and solid architecture, and neatly furnished. The gloomy cathedral has been enlivened by enlarged windows; but the decorations are ill disposed, and shew the want of taste generally prevalent in commercial towns. The bishop Perez who, in 1793, was translated to Quito, shewed however considerable spirit in the improvements. Since the freedom of commerce, luxury has made a considerable progress in Carthagena, and European fashions prevail†. The mulatto women, and wives of artisans, instead of the mantilla, wear a cotton veil striped with various colours; while the ladies are distinguished by the fineness of their dress, especially of their stockings and shoes. Music and dancing also prevail; and the harpsicord and song are heard as in the most civilized cities of Europe.

Santa Marta was founded in 1555, and has a good haven defended by two forts, but has considerably declined, the houses being now mostly of wood, covered with straw. This was the place of arms of Quelada, the conqueror of New Granada; and was reduced to ashes

\* Estalla, xlii. 247.

† Ib. xlii. 304.



in 1596 by Sir Francis Drake. Piedrahita, who has written a history of the conquest of New Granada, was bishop of this city. The port is large and convenient, protected by lofty ridges, and has in front a round hill, which defends the city on the side of the snowy mountains, at the distance of three leagues. These mountains, clothed with perpetual snow, may be regarded as the termination of the main chain of the Andes, which passes, accompanied with its usual mineral opulence, between the rivers of Magdalena and Cauca, as already explained.

COMMERCE.] It has already been seen that the commerce of this viceroyalty has suffered by the suppression of the galleons, and has not yet even resumed its vitality, though encouraged by the freedom granted in 1778. The contraband trade, carried on by the English on the Musquito shore, and from the Portuguese settlements in Brazil, not to mention the Caribbean sea, has also impeded the exertions of the Spanish colonists.

NATURAL GEOGRAPHY.] The climate of this extensive viceroyalty presents infinite variety; for though lying under, and in the near vicinity of the equator, the vast and sublime chain of the Andes, running N. and S. from the table land of Quito and Cuenca, to the Caribbean sea and environs of Santa Marta, occasions every diversity from the snow and ice of the poles, to the rain and heat of the tropics. While the ancients conceived the torrid zone totally uninhabitable, on account of the vertical sun, the theoretic geographer might be frozen to death on the summit of a mountain, or drowned in the continual torrents of rain. But God creates worlds, and man creates theories. In the dreadful pass of Gouanacas N. lat.  $2^{\circ} 34'$ , between Popayan and the little town of Plata, the traveller traverses the eastern chain of the Andes, which continues its progress between the rivers Magdalena and Cauca, maintaining its grandeur and chief altitude till it expire in the snowy mountains of Santa Marta, or, according to our author, at the junction of the two great rivers just mentioned\*. Though the greatest precautions are used, yet, for the space of two leagues, the road was found so much covered with the bones of travellers who had perished, that it was impossible to set down one's foot except upon these terrible memorials. To the S. of this pass, is the lofty volcano of Cocunucu, and towards the N. the mountain of Houila equally clothed with snow. At less than a hundred fathoms distance, appear the source of the Cauca on one side, and that of the Magdalena on the other, prodigious rivers, evincing the extreme altitude of this part of the chain: and though the road from Popayan to Plata be only twenty leagues, from twenty to twenty-two days are employed, so great are the difficulties of the road, so terrible the climate encountered within two degrees of the equator! Even the climate of Bogota, the capital, as already mentioned, may be accused of cold; and the desert heights of Albarazin on the E. temper the fervours of the tropical sun.

SEASONS.] The names of summer and winter expire under the tropics, where, if mountains do not interfere, there are only the wet and dry seasons; and the former, which is called winter, is often of superior warmth.

RIVERS.] The great rivers Magdalena and Cauca rise and terminate in this viceroyalty. According to the map of La Cruz, the very sources are considerable streams, perhaps the issues of subterranean waters, from the vast cavity under the table land, where the volcanos often pour

\* Bouguer, *Figure de la Terre*, p. lv.

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out destructive torrents of water and mud; but the natural history of these rivers has been little illustrated, and the completion of Mr. Humboldt's work is impatiently expected. The navigation of the Cauca, between Popayan and Antioquia, is rendered dangerous by winding rapids, which however the Indians pass in their canoes. The Magdalena, as already mentioned, is a majestic navigable stream, the Danube of New Granada.

**BOTANY.]** The botany of New Granada has not been duly illustrated, though it be said that Bogota is the residence of an eminent botanist. The labours of Mr. Humboldt will, no doubt, leave little to desire on this subject. Some of the most useful vegetable productions have already been specified\*.

Bouguer has described the celebrated fruit called *chirimoya*, as often larger than the largest apple, while the rind is not stronger than that of the fig, and the colour a little deeper; but it is as it were engraved, or marked with little scales, while the pulp is white and fibrous, but exquisite.

The *Ceroxylon Andicola*, or wax palm, grows on the Andes, at the height of eighteen hundred yards to two thousand nine hundred yards in the country between the valley of the Magdalena and Cauca. The space on the trunk between the rings left by the fall of the leaves, is covered about one-fifth of an inch thick with a natural mixture of resin and wax, in the proportion of two of the former to one of the latter.

The *Matifia cordata* grows wild and cultivated in New Granada and Peru. It bears a large fruit like an apricot.

The *Myrtus microphylla*, a beautiful evergreen shrub, grows near Loxa in Peru†.

**ZOOLOGY.]** The animals are in general such as are common to the whole continent of South America, and the scientific reader will consult the work of Azara. The tapir, (the danta of the Spaniards, the anta of the Portuguese,) is well known, as are several kinds of wild boars and deer; the ant-eater is not uncommon. The jaguar, called the American tiger, though he appears to be spotted and not striped, is the most ferocious and dreaded animal, and attains a great size; while the puma, of an uniform colour like the lion, rarely attacks mankind. The wild cats of two or three kinds are little dangerous; and in general the musquitoes and other noxious insects are more to be dreaded than quadrupeds. Bears are familiarly mentioned by the Spanish writers, but they probably mean the ant-eater, as Alcedo specifies; and it may be difficult for an exact naturalist to trace the black or brown bear in these climates‡; nor does that animal seem even known in Chili, if we judge by the account of the accurate Molina. The bears found in North America seem to have passed on the Arctic ice from Asia and Europe. Serpents of enormous size, such as the *buia* or

\* The balsam of Tolu is so called from a village in the province of Carthagena. Among the beautiful woods are the *muzo* streaked with red and black, the *guayana* with grey and black; and many other kinds, which, if fashion permitted, would far outshine the mahogany. The best cochineal is from Sogamoso. There are palms so high that the fruit cannot be gathered except by the birds. The varnish called *mopamopa* is the resin of a tree in the district of Pasto, and is said to equal the Chinese. Estalla, xxiii. 38.

† Humboldt.

‡ In the charming romance of Robinson Crusoe, de Foe seems to use a poetical licence when he makes Friday kill bears in his own country.

*boba*, are found in the marshes; and the cayman or alligator swarms in the rivers\*.

**MINERALOGY.]** The mineralogy of the viceroyalty of New Granada is far from being unimportant. Alcedo observes that gold is here more abundant than in any other part of America; and in Antioquia, and several other towns, no other money is known. The richest provinces in gold mines are those of Choco, and Antioquia, which are also easily accessible by the rivers Atrato and Guacuba, which enter the gulf of Darien, and are navigable for a considerable extent†. Silver is also remarkably pure; and the mines of Marquetones, in the district of Pamplona, are so rich, that, if there were a sufficient number of labourers, they might rival those of Potosi, as they sometimes yield eight marks of silver in the hundred weight. Copper and lead also abound, but are despised. There are mines of beautiful emeralds in the district of Muzo, superior to those of Somondoco in the district of Tenza; and in these mines are also found *pantauras*, (a kind of precious stone not described,) of various colours, with grains of gold in the interior. Alcedo adds that in the mines of Antioquia, and Guamoco, diamonds are found among the lumps of gold, but are of a small size; with jacints and beautiful garnets. The river Hacha has always been celebrated for its pearls, and Timana for amethysts and *pantauras*; while Pamplona, Sussa, and Anserma, boast of their turquoise, girasols, gallinazos, or obsidian, and *mapulas*‡.

Estalla adds that the silver mines of Mariquita and Pamplona have been abandoned, and that gold alone is coined at the mint of Bogota§. Copper is found in the district of Velez, but is little worked, from the want of machinery and miners. The province of Darien having been abandoned to the Indians, the gold mines are mostly lost.

**EMERALDS.]** MUZO, the seat of the celebrated mines of emeralds, is in the district of Tunja; and 200 families, which inhabit it, are chiefly occupied in availing themselves of this precious advantage. In 1764 the viceroy of Peru ordered these mines to be examined; and the veins, which had disappeared, having been found, the labour was ordered to be resumed on account of the royal treasury. This singular and celebrated mine is in the mountain of Itoco, at the distance of three leagues from Muzo; which is distant about 50 B. miles to the north from the capital. There are also in the neighbourhood of Muzo some mines of copper. Muzo is supplied with provisions from the neighbouring town of Ebate.

**MINES.]** In the time of Ulloa the province of Papayan abounded in mines of gold, the richest being those of Cali, Buga, Almaguar, and Barbacoas; and there were also several mines of that metal in the

\* Near Punta, on the coast of Guayaquil, was formerly found the purple shell fish of the ancients, and it was used as a dye.

† Estalla, xxiii. 74.

‡ Alcedo mentions that the *mapula* is a precious stone found in the mines of Anserma; and that the *pantaura* is of a clear amethyst colour, pervaded within with little streaks of a deep crimson.

Coletti gives the following list of the mountains in the viceroyalty of New Granada:

|                          |                          |
|--------------------------|--------------------------|
| Abibes                   | Fosca                    |
| Abipi                    | Gachaneque               |
| Bocaneme, Mine of silver | Itoco, Mine of emeralds. |
| Buritaca, Mine of gold   |                          |

§ Estalla, xxiii. 322.

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**NATURAL** five viceroya of Quito to t tioned in the which rather seem to be k the W. and described; a out flames, earthquakes t ejecting sulph curiosity occur river of the height of 220 rate Bouguer be two or thr Alcedo, who is 220 *estados*, Bouguer, the 1320 feet §. passes along a from the spou expressed, the fall is received and the quant tinal mass of but in the mo rainbows acco which form th polished as if c trees, shrubs, of the birds, a dama alike sub

\* La Cruz has

† Estalla, xlii.

‡ Figure de la

probable that Estal Spanish authors re bear no proportion is about 15 or 16 le Magdalena; and th there must be even

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noted district of Choco, some of which were abandoned on account of the abundance of platina, a more rare and singular metal than gold, but at first, as appears from our author and Bouguer, mistaken for an obdurate pyrites. Other gold mines were near Zaruma, within the jurisdiction of Loxa; and some in the government of Jaen Bracamoros. Near the village of Angamarca, in the jurisdiction of Latacunga, was a mine of prodigious value. That rare and singular metal called platina is still believed to be a peculiar product of Choco. It is generally found in minute pallets, but Humboldt is said to have brought a piece more than an inch in length.

NATURAL CURIOSITIES.] Natural curiosities abound in this extensive viceroyalty; and there are singular features, from the upland plain of Quito to the environs of Santa Marta. The volcano of Duida, mentioned in the general description of South America, is in Spanish Guiana, which rather belongs to the government of Caracas; and no volcanoes seem to be known in the two grand chains of the Andes which pass to the W. and E. of Bogota \*. Those of Quito have been already described; and Humboldt informs us that even some caverns throw out flames, and sometimes large plains are hollow. In 1766, after earthquakes that lasted for eleven months, a plain opened on all sides ejecting sulphureous water and bitumen. But a more pleasing natural curiosity occurs in the neighbourhood of the capital Bogota, where the river of the same name, also called the Pati and Funza, falls from a height of 220 feet according to Estalla †; but according to the accurate Bouguer this cataract is one of the highest in the world, as it must be two or three hundred fathoms in height, and the fall is vertical ‡. Alcedo, who is often copied by Estalla, expressly says that the height is 220 *eslados*, or fathoms of six feet each, which being corroborated by Bouguer, the real height of this stupendous cataract is probably about 1320 feet §. The river Funza, which is even here very considerable, passes along a narrow channel on a high table land, and is poured, as from the spout of a vase, in one arch of the enormous height above expressed, the noise being heard at the distance of seven leagues. This fall is received in a vast cauldron of more than a league in circumference; and the quantity of the water, and violence of the descent, form a continual mass of clouds, which renders it scarcely visible in the evening; but in the morning it is more striking, being decorated with numerous rainbows according to the position of the spectator. The vast rocks, which form the cauldron, also excite admiration, being as regular and polished as if cut with a chisel; the surrounding heights are covered with trees, shrubs, and flowery plants, while the splendid appearance of some of the birds, and the music of others, render the cataract of Tequendama alike sublime and beautiful.

\* La Cruz has marked the volcano of Ebejito about 80 B. miles W. of Antioquia,

† Estalla, xvii. 281.

‡ Figure de la Terre, xci. As the 200 fathom of Bouguer make 1200 feet, it is probable that Estalla, or his printer, has for *doue* or twelve, put *dos* or two; and all the Spanish authors regarding this fall as what they call a prodigy of nature, the 200 feet can bear no proportion to such expressions. Bouguer informs us that this wonderful cataract is about 15 or 16 leagues beneath the city of Bogota, and about eight leagues from the river Magdalena; and that the city of Bogota is about, 8400 feet above the level of the sea; so that there must be even here a high table land.

§ There are cataracts in Italy of 2,400 feet, See Vol. i. p. 697.

## SUPPLEMENT.

## GOVERNMENT OF CARACAS.

*Extent.*—*Population.*—*Manners.*—*Government.*—*Royal Audience.*—*Defence.*—*Products.*—*Commerce.*—*Revenues.*—*Cities and Towns.*—*Natural Geography.*—**SPANISH GUIANA.**

**EXTENT.]** THE government of Caracas is so called from the chief town Leon de Caracas, but was properly the indigenal appellation of a tribe in that quarter. The list of captains-general or governors of Caracas may be found in Alcedo's work; and extends from 1528, when Alfinger conquered the country for the Welfers, (a German mercantile house, to whom Charles V. had assigned the property,) till the year 1785. The chief or largest province was originally called Venezuela, or Little Venice, from a village of the savages in the lake of Maracaibo; but the government now comprises the adjacent provinces of Maracaibo, Varinas, Cumana (including Barcelona), Spanish Guiana, and the isle of Margarita. The government, in this extent, has existed since 1730, and the governor acknowledges no superior except the king. The province of Merida is merged in that of Varinas; and the name of New Andalusia has been properly exchanged for that of Spanish Guiana; while that part of Brazil which is to the N. of the Orinoco has begun, not improperly, to assume the name of Portuguese Guiana. The establishment of the Royal Audience of Caracas, when the Spanish part of Hispaniola was resigned to the French, further ascertained the clear jurisdiction and boundaries of Caracas.

**CONQUEST.]** In 1498 Colon inspected that part of the coast called Paria, on the west of the strait called by him the Dragon's Mouth; but little progress was made in the settlement till Charles V. sold the country to the Welfers of Augsburg, who were dispossessed about 1550. The chief conqueror was Lofado, who founded the city of Caracas in 1567.

**POPULATION, &c.]** The following table of the population is given by Depons, but the round numbers rather infer some exaggeration.

|                              |   |   |         |
|------------------------------|---|---|---------|
| Venezuela, including Varinas | - | - | 500,000 |
| Maracaibo                    | - | - | 100,000 |
| Cumana                       | - | - | 80,000  |
| Spanish Guiana               | - | - | 34,000  |
| Ile of Margarita             | - | - | 14,000  |
|                              |   |   | <hr/>   |
|                              |   |   | 728,000 |

**GOVERNMENT.]** The regulations of the Spanish colonies have already been explained, and the profound policy by which they are kept dependent on the parent country; while the English freedom and industry rendered our colonies almost independent; and the French only regarded a colony as a situation to acquire some wealth which they were eager to enjoy in Europe. The governor of Caracas represents the monarch throughout the provinces of Maracaibo, Varinas, Caracas, Cumana, Spanish Guiana, and the isle of Margarita; all the military department being

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**PRODUCTS.]**  
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being completely subject to his orders, though on great occasions he consults a *Junta de Guerra*, or council of war, composed of the chief officers. There are however delegated governors for each province, appointed for five years, with a lawyer as an assessor. Though the governor-general is president of the audience, the place is merely honorary, as he has no vote nor voice. The whole system is subjected to the Council of the Indies in Spain, and as he is obliged to render an account of his administration, acts of despotism are extremely rare; and equity is inculcated by a prohibition to purchase property, to trade, marry, or form any connexions in the colony. The salary of the governor-general of Caracas is nine thousand dollars a year; and he is generally appointed for seven years. The account which he is obliged to render of his administration is by the Spaniards called *dar residencia*, and is a grand example worthy of imitation. A commissary, generally a lawyer, is named by the king to receive this account; and he gives notice that, at such a time and place, the Court of Enquiry will be held, where all persons whatever, particularly Indians, who may consider themselves to have been aggrieved by their late viceroy or governor, shall be heard, and their complaints redressed. A governor is obliged to remain sixty days; and other sixty days are required to hear and decide the complaints: but a viceroy must remain for six months: nor can any new situation be obtained, except upon a certificate that they have passed the forms and term of their residence.

ROYAL AUDIENCE.] The Royal Audience of Caracas was established in 1786, and its power extends over all the provinces included in the captaincy. Besides the governor, as honorary president, there is a regent, with 5300 dollars a year, three *oidors*, or judges, each 3300; two fiscals, civil and criminal, a recorder, and a grand alguazil.

PRODUCTS.] While the line of mountains along the coast presents gneiss, granite, and other barren rocks, with the singular circumstance of rivers that rise near the sea and flow inland, in the interior the cultivable soil of the plains, exposed to the solar heat, only presents pasturage for bees, horses, and mules; and the vales are of all other parts the most fertile. The cacao or chocolate tree dreads the rays of the sun, and is protected by trees of taller growth. To this main article of cultivation indigo was added in 1774 by a worthy clergyman; and cotton in 1782. The sugar cane of Otaheite began to be tried in 1796, but is found of little advantage, as though larger, the juice is not of equal strength. Tobacco forms another article of culture\*. Yet with all these rich products few planters are worth more than four or five thousand dollars a year; and the French island of St. Domingo used to produce ten-fold the quantities yielded by all the provinces of Caracas. The high interest of money; pious legacies of yearly amount, whatever be the crop; the habit of residing in towns; the foolish ambition of idle offices, and the consequent contempt of industry and agriculture; and above all, according to our author, the want of a sufficient supply of negroes, are the causes of this deficiency. A board

\* Among the products of Venezuela, Estalla, xlii. 128, mentions maize, plantains, yucas, potatoes, curas; and *guanes*, a kind of root so enormous as sometimes to weigh twenty-five pounds, and may be eaten for many days without spoiling. Alcedo has given an account of the *ignam*, which is also found in Africa; the size seems to depend on the richness of soil, it is of a dark purple colour approaching to black, and the substance resembles the potatoe; it is multiplied by cutting the top into four parts, and planting them at the distance of three or four feet, and the root is ripe in six months.

of agriculture would be of supreme utility, and might even assist the Royal Audience, by judging in a summary way the little law suits on irrigations, encroachments, the pay of workmen, the treatment of slaves, which at present occupy half its attention. Bouguer had long ago explained what is confirmed by our author, that the Spaniards and creols neglect the arts of industry; some miserable office or paltry honour, a cross of knighthood, occupy all their attention, while a few are in chase of the titles of Castile, aspiring to be marquises, counts, or barons.

COMMERCE.] From the deficiency of the produce it may be judged, that the commerce of Caracas is not considerable. In June 1728 industrious Biscayans founded the company of Guipuscoa, which was to trade with Venezuela, and thus obviate the contraband traffic with strangers. Their general assembly was held at St. Sebastian; and the trade was conducted with wisdom and spirit, till, corrupted by wealth and avarice, the company itself entered into the contraband trade with the Dutch of Curazoa, which they were instituted to prevent. At length the celebrated ordinance of free commerce, 12th October 1771, was issued with supreme prudence, and followed with surprising success. The great ports are Guayra and Porto Cavello, as regulated by an ordinance of 1798, while the others have inferior privileges.

CITIES AND TOWNS.] Caracas, the capital, is a considerable town, on the little river of Guayra. Its elevation of four hundred and sixty fathoms above the sea, cools the temperature, so that spring may be said to be perpetual. During winter the thermometer of Fahrenheit marks from  $52^{\circ}$  to  $76^{\circ}$ , and in summer from  $69^{\circ}$  to  $85^{\circ}$ . It is built in a valley, of about four leagues in extent, among the mountains of the great chain, which runs along the sea from Coro to Cumana. The site is steep and irregular, from the northern heights to the river Guayra, which bounds the city on the S.

Porto Cavello seems a commodious harbour, and the population may be 7500; but the situation is unhealthy, and extremely dangerous to the crews of foreign vessels. The marsh, which occasions this mortality, might be drained for twenty thousand dollars! Valencia contains about eight thousand inhabitants, and its advantageous situation may lead to great future advantages. Maracay is a beautiful new village, in the rich vales of Aragoa, famous for the culture of chocolate. The industrious inhabitants, mostly Biscayans, have been computed at more than eight thousand, and the vicinity is crowned with numerous plantations of cotton, indigo, coffee, and grain. Tulmero, in the same vales, is another handsome town. Victoria contains seven thousand eight hundred souls. Coro stands in an arid sandy plain, full of *cacti*, nopals, and Indian figs; it has some commerce with Curazoa, and a population of about ten thousand. Carora, thirty leagues to the S. is also in an arid soil; but there is abundance of deer, whose hides are dressed, leather being the chief fabric: population six thousand two hundred. Barquisimeto is a thriving town, with about eleven thousand three hundred souls. Tocuyo contains more than ten thousand, though the inhabitants have a singular propensity to suicide. Guanara may contain twelve thousand three hundred. In 1804 Calabofa, between Caricas and the Orinoco, might already boast of a population of four thousand eight hundred. Pao is remarkable for herds of cattle\*.

\* There are two towns of this name.

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The river of the same name, passing N. to S. formerly fell into the lake of Valencia, but afterwards assumed its present direction to the river Apuri, so that a communication might easily be opened between Valencia and the Orinoco, a distance of one hundred leagues. San Felipe is a regular town, with about six thousand eight hundred inhabitants. Nirgua, built in the expectation of mines, has been abandoned to the Zambos, or offspring of negroes and Indians; a race so remarkable for crimes, that of ten which are committed, eight may be ascribed to them. This mixture is radically bad, while the children of a white by an Indian woman, who are of a pale complexion, are always delicate, lively, good, and docile.

Cumana forms a delegated government, said to contain two provinces, Cumana and Barcelona, which last however has never formed a province, but being included in the grant to the Welser, was esteemed a part of Venezuela. The town of Cumana is the most ancient in the Caracas, having been founded in 1520, on a sandy soil, about a league from the sea. In the last war, Emparan the governor, opened the port to neutral ships, and his conduct met with the approbation of his sovereign. The heat of the climate is very great, yet the population is computed at twenty-four thousand, and is thought to be on the increase. It is however subject to frequent earthquakes, which Humboldt supposes to proceed from the volcanoes of Cumucuta, which pour out sulphur and hot water. The caverns of Cuchenaro emit an inflammable gas, which shines in the night, especially after rains, to the height of one hundred fathoms. The population of Cumana is chiefly composed of creols, who are industrious and fond of their native place. The great article of trade is salted fish, which is sent to Caracas and the Windward Islands; the industrious inhabitants being from Catalonia and the Canaries. Cariaco contains about six thousand five hundred persons. Barcelona was founded in 1634, on a plain, one league from the mouth of the river Neveri; the population is computed at fourteen thousand; but the town is, or was, very disagreeable, and only noted for breeding swine. There is another town called Pao, about forty-five leagues from Barcelona. The isle of Margarita is little remarkable, except as a military station for the invasion of the Caracas. The chief town is Assumption, near the centre of the island.

The town of Maracaibo is in the province of that name, which is bounded on the W. by the viceroyalty of New Granada; the last province of which in the N. E. is that of the river Hacha. On the S. the province of Maracaibo borders on Varinas. The eastern shore of the lake of Maracaibo, is arid and unhealthy; and on the W. the land only becomes fertile about twenty-five leagues to the S. of the town, an excellent soil prevailing on the southern banks of the lake. The town is on the western shore, at the distance of six leagues from the sea, on a sandy situation, and in a hot and dry climate, chiefly felt from March to October; but in July and August the air seems to proceed from an oven. The only antidote is to bathe in the lake; and endemial disorders are unknown. The thunder storms are terrible; and if they fail, earthquakes are sure to follow. Most of the houses are meagrely covered with reeds, and there is no water but that derived from the lake, which is healthy, though not pleasant, especially in March and April, when the strong breezes impregnate it with sea-spray. According to an enumeration in 1801, there were about twenty-two thousand inhabitants; and they were increased by the Spanish refugees from St. Domingo. The slaves do not exceed five thousand. The habit of sailing on the lake

lake encourages the spirit of navigation, and many of the natives become seamen. Even in the dry savannas they contrive to feed numerous herds, and the youth are celebrated for intelligence and ingenuity; but the inhabitants rather noted for want of probity. The women are fond of the harp, which resounds in the streets in the evening. There is only one church, and a convent of Franciscans. Merida is the seat of a bishopric, created in 1782, and the inhabitants are computed at more than eleven thousand. The province of Varinas sometimes assumes the name of Merida; but by the map of La Cruz, New Varinas is in the province of Caracas; while by that of Depons, which seems more correct, Merida is in the province of Maracaibo, and Varinas near the centre of the province so called.

Truxillo was a flourishing town till it was ravaged by the buccaneers in 1678, since which event the population has greatly declined; and Truxillo is chiefly noted for sweetmeats and confections made by the women. In 1787 the town of Varinas was detached from the government of Maracaibo, and chosen for the seat of a separate government. As it is easily accessible by the navigable rivers which join the Orinoco, a militia was appointed for its defence in 1803. The tobacco of Varinas is highly celebrated, though not equal to that of some parts of Cumana. The town of Varinas has a population of 10,000.

**NATURAL GEOGRAPHY.]** The temperature of this country, which is in the ancient torrid zone, chiefly depends on the chains of mountains. A branch of the eastern Andes of Quito passes along the N. of the province of Varinas; and borders the coast from Coro, or rather the N. of Valencia, as far as Paria; while another chain called the Bergantin mountains, passes further to the S. These chains are mostly habitable, being of little height, though from ten to fifty leagues in breadth. The highest peak is the Picacho, of about seven thousand feet. From the account of Humboldt, these mountains are chiefly of granite and gneiss, intermingled with talcaceous schistus, and chloritic schistus, adularia, limestone with mica, rock crystal, a green primitive rock, quartz, galena, titan, plumbago, clay, potters' clay, &c. In the interior of Cumana there is a remarkable cavern called Guacharo, famous among the Indians, for being of immense extent, and serving as a habitation for thousands of a kind of nocturnal birds, a new species of goat-sucker; the savages conceive these birds to be the souls of their ancestors, and visit the cavern with great ceremony.

**MINERALOGY.]** There was formerly a mine near Nirgua. At present only copper is explored at Aroa, in the jurisdiction of St. Philippe. These mines are rich and abundant; and in 1801 one hundred and seventy-one quintals were exported from Porto Cavello. Mineral waters abound in these provinces\*.

**LAKES.]** Spring and autumn are unknown, and there are only summer and winter, or more properly rainy and dry seasons; during the

\* The caguars (American tigers or leopards) abound in Caracas, and are said to be the more fierce in proportion as the spots of their skin are smaller. Perhaps they diminish with age. There are also many pumas, or American lions, with bears or rather ant-eaters, dantas or tapirs, deer, *paquiras*, and American rabbits. Among the plants is the *tacama-jaca*, said to relieve head-ache. Estalla, xxiii. 106, 107, who says that there are mines of tin in different parts, discovered by Oviedo, a citizen of Barquisimeto; and adds that, it is employed in the Spanish founderies of artillery. He also mentions veins of *azul* or azure, equal to ultramarine; and the same substance is mentioned by Ulloa in his account of Peru. Do they mean Prussian blue or cobalt, which, as yielding smalt, was formerly called blue-stone?

former the rains have ceased, earth in Caracas little derived its name from sea of fresh water; g: miles in distance mentioned in the fresh till its end salt as far as to Mena, there mixed with vapours, especially this spot, formerly they serve as a lake without the Indians but the name of Venezuela the eastern side a curate; and give the danger wanting. That they take practised in Ch further north to

The lake of Maracaibo, and being fertile land authority, it is length, by three Depons, from to N. E. is thirty four. Except receives on all sides in the middle, evacuation. That on the king's and other sides are covered with verdure. This is inhabited. The quantity of Iguanas, a most unsightly appearance

**RIVERS.]** A river Apuro or the Portuguese followed by the stream, which discharges into the Guarapicha, where the tides on the almost insensible they are so strong mariner. The t

former the rain generally falls for three hours in the afternoon, as in Mexico; before 1792 thunder storms were more frequent, but since, the rains have been more abundant. Since the thunder storms have ceased, earthquakes have become more common. The botany of Caracas little differs from that of New Granada. The lake of Maracaibo derived its name from an Indian cazic who commanded there. This sea of fresh water is nearly circular, and by the latest maps about 90 g. miles in diameter. It is navigable for large vessels, as already mentioned in the account of the town of Maracaibo. It is generally fresh till its entrance into the sea, but during the northern breezes is salt as far as the town. On the N. E. of the lake, at a spot called Mena, there is an inexhaustible store of mineral pitch, which being mixed with tallow serves to tar the ships. In the night the bituminous vapours, especially during the great heats, dart like lightning from this spot, forming what is called the lantern of Maracaibo, because they serve as a pharos to the Spaniards and Indians, who navigate the lake without a compass or nautical skill. The shores being unhealthy, the Indians build their hovels upon stakes of hard wood, whence the name of Venezuela or Little Venice. Four such villages still exist on the eastern side of the lake; they have a church on the water served by a curate; and so fervent is religious zeal, that though he seldom survive the dangerous climate above six months, yet a successor is never wanting. These Indians chiefly live on fish; and it is remarkable, that they take wild ducks by concealing their heads in calabashes, as practised in China. The western side of the lake is fertile; and the further north the air is the more salutary.

The lake of Valencia offers a more pleasant prospect than that of Maracaibo, and is more useful, though far inferior in size, the banks being fertile land, and enjoying a delicious climate. By the latest authority, it is about ten Spanish leagues, or forty British miles in length, by three and a half, or fourteen British miles in breadth; but Depons, from his own observation says, that the length from S. W. to N. E. is thirteen French leagues and a half, and the greatest breadth four. Except the western side, it is surrounded by mountains; and receives on all sides twenty rivers or rivulets. It is found to be lower in the middle, where it is supposed there is a subterranean tunnel of evacuation. The eastern side is occupied with five plantations of tobacco on the king's account, which occupy fifteen thousand persons; and the other sides are equally cultivated, while the banks present a perpetual verdure. This lake is also adorned with several isles, some of which are inhabited. The water is of a soapy kind, ascribed by our author to the quantity of animals and vegetables, which there rot and decompose. Iguanas, a monstrous kind of lizard, abound, and in spite of their unsightly appearance afford a delicious food.

RIVERS.] After the grand Orinoco in the S. the chief rivers are the river Apuro or Apuri on the W. joined at its confluence by the river of the Portuguese Woman, or more shortly the *Portuguesa*, which is followed by the Guarico. In the middle is the Unari, a considerable stream, which divides Venezuela from Cumana; and on the E. the Guarapicha, which is navigable by boats for a considerable space. The tides on the northern coasts between the capes Vela and Paria are almost insensible; while on the eastern shores as far as Dutch Guiana, they are so strong as to enter essentially into the calculations of the mariner. The trade winds between N. E. and E. though constant on the



the sea, upon the shores only blow from nine or ten o'clock till the evening, when they are replaced by an opposite wind or land breeze. But this rule is not without exceptions. Vessels must be tarred every three or four months, else they are corroded by the worms\*. It has already been mentioned that Porto Cavello is by far the best and safest haven.

\* Might not a mixture of arsenic prevent this pestilence?

**SPANISH GUIANA.]** This article must not be dismissed, without some account of SPANISH GUIANA; for such is the appellation finally adopted for the province, called in some maps New Cumana or New Andalusia. The large and celebrated territory of Guiana is bounded by the river Orinoco on the N. and W., the line afterwards bending on the E. of the Casiquiari, where is the fort of St. Carlos, to the great river Negro, which divides Guiana from Northern Amazonia, or by a more laudable appellation Northern Colonna. The southern boundary of Guiana is strictly the great river Marañon; the part of Brazil on the N. of that river having begun to assume the more proper name of PORTUGUESE GUIANA. The eastern boundary is the Atlantic Ocean. This interesting country is even at present little known; and contests have arisen concerning the course of the most important rivers. The French, Dutch, and Portuguese possessions in Guiana, are reserved for separate descriptions.

**BOUNDARIES.]** Spanish Guiana is bounded on the S. E. by the Dutch and French possessions, on the S. by the Portuguese, the line of demarcation passing nearly parallel with the lake of Parima and the great chain of mountains called Tumucurag. The precise western boundary is the western mouth of the river Yupura, thence proceeding almost due north till it join the northern limit. But when the French, by the treaty of 1801, extended the western frontier of their possessions to the Rio Blanco, it appears to be indicated, that this river forms the boundary of Portuguese Guiana, which would be more proper than an arbitrary line. The equator was the original boundary, but the Portuguese have extended their possessions thirty-two leagues further to the N. for there are situated the isle St. Joseph, and the mountain Gloria del Cocui, regarded as the present boundaries. The Spanish fort of San Carlos, N. lat.  $1^{\circ} 53'$ , is intended to prevent new usurpations, and to recover if possible the lost territory; which is difficult, as the Portuguese have settlements in a fertile country, and the convenience of transport by the Marañon, they being more than 300 leagues from the sea. From this reasoning of Depons, it would appear that the recent western boundary of Portuguese Guiana extends to the great river Negro. The town of San Tome, or old Guiana, was founded in 1516, on the southern bank of the Orinoco, fifty leagues from its mouth; but being exposed to repeated attacks and insults, was transferred in 1764, to a more safe and remote position, about ninety leagues from the sea. There is here a special governor, dependent on the captain-general of Caracas; and it is the seat of a bishopric. The

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houses have terraces, where the inhabitants sleep during the great heats. In 1803, the whole tythe of the vicinity was 4000 dollars. Trade is carried on by a few Catalonians, in thirty-four small vessels. The city had better have been placed nearer the sea, and the ferocious Cariba expelled, which might be accomplished in two months by three thousand troops.

## CHAPTER IV.

## GOVERNMENT OF CHILI.

*Origin of the Chilese. — History. — ARAUCANS. — Dress. — Manners. — Government. — War. — Religion, &c.*

*SPANISH CHILI. — Government. — Cities. — Commerce. — Natural Geography.*

ORIGIN.] THE works of Molina concerning this interesting country may be regarded as excellent models of chorography: and scarcely of any distant region a description exists so exact and complete. He shall therefore be selected as the chief guide in the following short abstract, though a few occasional observations by other recent authors may be interspersed\*. Some of the indigenes of Chili believe that they were produced in the country, while others assert that they came from the north or the west. Our learned author inclines to think that the Chilese, being generally of a mild character, perhaps proceeded from the isles of Polynesia; and a comparison of the languages might be curious. They are of a brown, tinged with red or copper colour, like the other American tribes; while the Polynesians are generally olive, a tint decidedly Asiatic. One tribe however, in the province of Boroa, is fair. The Chilese language is remarkably rich and harmonious; and from our author's vocabulary it would appear that there are few natural objects, or even abstract terms, which may not be expressed in the native idiom. It differs radically from the other American languages, not less in the words than in the structure. Some few words however seem to be from the Peruvian or Quechua, which is not surprising considering the contiguity of the kingdoms†.

HISTORY.] Till the fifteenth century the history of Chili is buried in total obscurity, but about the middle of that century it begins to dawn in the Peruvian annals. The Peruvian empire then extended from the equator to the tropic of capricorn, or confines of Chili, a delicious country extending for more than twelve hundred miles along the Great Ocean, flanked and protected by the vast belt of the Andes, which sends forth copious streams to water its fertile fields; while the envied soil at the same time abounds with gold, silver, and other valuable productions. The native Chilese were then divided into fifteen tribes, each ruled by its *ulmen* or chief. The inca Yupanqui, who seems to have reigned about 1450, ordered an expedition against Chili, conducted by a prince of the blood, while he himself remained in the frontier province of Atacama. Some tribes were rather won by per-

\* Molina *Saggio sulla Storia Naturale del Chili*. Bologna, 1782, 8vo. *Saggio sulla Storia Civile del Chili*. Bologna, 1787, 8vo.

† *Storia Civile*, p. 12.

suasion, than subdued by force or fear; and on a further progress the Peruvian army was totally defeated; but the country as far as the river Rapel, where there still exists a Peruvian fortress, acknowledged the dominion of the Incas. Thus on the arrival of the Spaniards in America, a part of the Chilese were subdued, while the other portion remained free.

In both these divisions the manners were the same; and the Chilese may be said to have advanced from the pastoral state of society to the agricultural; besides maize they cultivated several native plants, as potatoes, yucas, and others\*. They also multiplied their little rabbits, and native camel or rather tall sheep, which supplied them with flesh, and wool to clothe them. According to some traditions they had even hogs and hens, the former a frequent animal in Polynesia, the latter probably the turkey, an American fowl, or that bird which resembles the pheasant, which might probably be termed as partridges are in Asiatic Turkey. Such was their dominion over the animal creation, though they might have added the *guanaco*, the *pudu* a kind of wild goat, and various birds which abound in their country. Canals to water their fields were not unknown, but their instruments of agriculture were mean and cumbersome. Their villages consisted of huts, only within view of each other, like those of the ancient Germans; and it would seem that their chiefs arose to that dignity on account of their wealth, as the word *ulmen* signifies a rich man. Their power was directive and not coercive, and the right of property was admitted; the field belonged to the cultivator, and was transmitted to his children. Their looms, though of rude fabric, somewhat resembled the European; and they were no strangers to the art of making earthen ware. They extracted from their mountains gold, silver, copper, tin, and lead; and of a mixture, approaching to bell-metal, formed axes, and other rude instruments, found, though rarely, in their sepulchres, they being generally of basalt. Our author even asserts that they had a term for iron, and had weapons made of that metal, a circumstance unknown to all the other tribes of America; but this by his own confession seems dubious†. They were acquainted both with fossil salt, and that drawn by heat from sea water; and their dyes were fixed by the *polcura*, an aluminous stone used as a mordent. From one of their plants was derived thread for cords and nets; and they had canoes of different structures. In numbers they could express one thousand, and they had *prons*, or the Peruvian *quipos*, a bundle of threads of various colours, with different knots to express contracts or events. The celebrated Araucanos may be considered as the genuine representatives of the ancient Chilese; and the account of their manners will supply any deficiency in the present description.

**ARAUCANS.]** After the conquest of Peru the Spaniards under Almagro first attacked Chili in 1535; but met with little success till their general Valdivia, in 1541, founded Santiago, which has since remained the capital. After detailing the events of those wars, our author proceeds to give an account of the Araucans, who have so vigorously defended their country against the further progress of the Spaniards, and who are better known in Europe by the epic poem of Ercilla than by the records of history. The description of this singular nation might have been transferred to that of the native tribes and Unconquered Countries; but as they possess nearly one half of Chili, and their his-

\* Storia Civile, p. 16.

† Ib. 25.

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tory is intimately interwoven with that of the province, the arrangement may appear more connected by introducing here a short view of their geographical position, character, and circumstances.

The Araucans inhabit a beautiful tract of country extending from the river Biobio N. to that of Valdivia S. bounded on the east by the Andes, and on the W. by the ocean. The name is derived from the province Arauco, which, though the smallest of their state, has, like that of Holland, become the leading name of the country and nation; but they also voluntarily receive the appellation of *AUCAS* or *FREE MEN*. Though they do not pass the usual size, they are in general robust, well formed, and of a truly warlike aspect. Their complexion, though copper, seems to be more clear than that of other Americans. The face is nearly round, the eyes though small, lively, and full of expression, the nose rather flat, but the mouth well made, with white and uniform teeth; the leg muscular and elegant, and the feet small and flat. They have naturally very little beard like the Tatars, and extract it with great attention, despising the beards of the Europeans as marks of barbarism. They also carefully eradicate this natural vegetation from all the other parts of their bodies. The hair of the head is black and copious, and bound up in a knot; and like the Franks, they esteem long hair a mark of honour. The women are often handsome, especially in Boroa. Endued with a strong constitution, and free from sedentary or careful operations, they rarely become grey before the age of sixty or seventy; nor bald before that of eighty: and not a few exceed one hundred, with the teeth, sight, and memory complete\*. The soul corresponds with the vigour of the body. Intrepid, and full of fire, patient of the fatigues of war, prodigal of their lives in defence of their country, above all lovers of liberty, which they value above their health and soul, jealous of honour, courteous, hospitable, faithful to their contracts, grateful for benefits, generous, humane towards the vanquished. These noble qualities are however obscured with vices peculiar to their nearly savage life, destitute of education and the use of letters; drunkenness, sloth, presumption, and a contemptible pride which leads them to despise all other nations. Were European manners and knowledge introduced, this people might deserve universal esteem; but the obstacles seem invincible.

**PUELCHES.]** The Puelches of the mountains, now united with the state of Araucana, are more rude and savage than the other inhabitants. Their name signifies eastern men. They are of a tall stature, and fond of the chase, so that they often change their habitations, and even detach colonies to the eastern sides of the Andes, as far as the lake Naguelgapi, and the shores of the Atlantic, in the wide Patagonian plains. The Araucans highly esteem these mountaineers for their bold services in war, and their lasting fidelity to the confederacy.

The history and wars of the Araucans, which are amply detailed by our excellent author, are foreign to the nature of this work. Unconquered by the Incas, they boldly resisted the Spaniards, who approached their territories in 1550. Proceeding beyond their northern frontier, the great river Biobio, to assist the Pencons against the new invaders, the Spanish fire-arms were seen and felt without astonishment; and the victors of Peru were at last astonished to find an unconquerable people. In the first engagement the Spaniards were disordered, and the horse of their leader slain; while the general of the Araucans fell on the field;

and a sharp conflict remained undecided. Valdivia, instead of making any progress, began to build a fortress to defend his territory; but in another battle, 1553, he was totally defeated and slain. Since that period wars have been carried on with various success. The Spaniards have established colonial towns, which have been repeatedly taken and ruined by the Araucans. The frontier banks of Biobio are lined with fortresses. At the peace of 1773, after a war which had cost the Spanish treasury 2,700,000 dollars, the Toqui of the Araucans insisted on having a resident minister at the city of Santiago, a proposition which the Spaniards reluctantly accepted; and the Araucan envoy with his train was lodged in the college of St. Paul, formerly belonging to the Jesuits. The Araucan state retained all its territory and glory, when Molina wrote in 1787; and it is to be hoped, that it will continue to exist as a perpetual proof of the courage and talents of the indigenes.

**SPANISH CHILI.]** The Spaniards are contented with that excellent tract of territory which lies between the desert of Atacama and the river Biobio\*. This settlement is divided into thirteen provinces, *Copiapo, Coquimbo, Quillota, Aconcagua, Melipilla, Santiago, Rancagua, Colchagua, Maule, Itata, Chillan, Pucacay, and Huilquilema*. They also possess Port Valdivia, in the country of the Cunchi; the archipelago of *Chiloé*; and the island of *Juan Fernandez*. Spanish Chili, a military province, is governed by an officer of merit, commonly of the rank of lieutenant-general, who assumes the titles of president, governor, and captain-general of the kingdom of Chili. He resides in the city of Santiago, and is wholly independent, except in cases of war, when he consults the viceroy of Peru. As captain-general he directs all military affairs; not only the three great officers of the kingdom, the camp-marshal, *serjeant-major*, and the commissary, but the four governors of Chiloe, Valdivia, Valparaiso, and Juan Fernandez, being subject to his orders. As president and governor-general, he administers justice, or rather presides in the court of audience in Santiago, divided into two halls, the civil and the criminal; with a regent, judges, fiscal or royal procurator, and a protector of the Indians. Where the property exceeds ten thousand dollars, an appeal lies to the supreme council of the Indies; but justice, as in all the royal audiences, is administered with singular integrity. There are also tribunals of finance, of the papal bull, of vacant lands; and the consulate, or tribunal of commerce, a new institution in the Spanish colonies, is independent of all the others. The provinces are governed by prefects or corregidores, commonly named by the captain-general. The inhabitants are formed into regiments of militia; and there is besides a body of regular troops. In the town of Concepcion, at the mouth of the Biobio, there is a regiment of cavalry, and another of infantry, to watch the Araucans; and the city of Santiago maintains some troops of dragoons for its police and defence.

**CHURCH.]** Spanish Chili is divided into two vast bishoprics, Santiago and Concepcion, both suffragans of the archbishop of Lima. The cathedrals are served by canons; and the holy, or rather accursed, office of the inquisition, has at Santiago a commissary, with various subalterns. There are no convents except at Santiago and Concepcion.

**CITIES.]** These cities are well built, with streets at right angles,

\* Molina, *Storia Civile*, 265.

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commonly thirty-six feet wide. The repeated earthquakes have enforced the mode of only a ground story; but the houses are whitened without, and commonly painted within; and many of the new buildings are of stone, and of two stories, as such have often withstood earthquakes as well as those of one. The cathedral of Santiago is 384 feet in length, the work of two English architects, but finished by Indians, their disciples. The mint of Santiago is the work of a Roman architect.

POPULATION.] Spanish Chili has benefited greatly by the liberty of commerce 1778, and the population begins to correspond with its delicious climate and fertile fields. The Spaniards are mostly from the northern provinces, and are mingled with a few English, French, and Italians. Molina observes, that the creols, of whatever European nation descended, resemble each other. Well made, intrepid, incapable of treason or meanness, vain, liberal, ardent, fond of pleasure, sagacious, observant, ingenious, docile, they only want instructive books, and scientific instruments, which are very rare, and sold at enormous prices. The noble arts are however neglected, and even mechanics are far from perfection. The men generally dress in the French fashion, and the women in that of Peru; but the Chilese ladies wear longer gowns, and have a more modest air. Lima however is the Paris of Chili. Wealth is wasted in the purchase of rich dresses, liveries, coaches, and titles of Castile, a fixed sum purchasing that of count, another that of marquis; and an opulent merchant may become a duke when he pleases. Two natives of Chili have even become grandees of Spain. The common people finding the Araucan dress convenient, have adopted their fashion: Dispersed through a wide country, and not watched, as in Spain, by the vulgar insolence of a village magistrate, they enjoy their liberty, and lead a happy and tranquil life amidst the pleasures of the delicious climate. Fond of gaiety, music, and poetry, many are *improvisatori*, or in the language of the country, *palladores*, as in the province of Cordova, on the other side of the Andes. The Spanish language is singularly fertile in rimes, and the courtiers in the sixteenth century would converse for hours in metre; hence the facility of their celebrated poet Lope de Vega, who, besides twenty large volumes of poetry, composed five hundred plays, in three acts, and short lines, each written in the space of a day, being in fact a mere *improvisatore*, but with wonderful invention in his plots. Spanish is generally spoken in Chili; but the country people near the Araucan frontier use the Araucan or Chilese language. Constantly on horseback, in an exquisite air, they are healthy and robust. The small-pox was not known till 1766, when it appeared in the province of Maulli. The mortality was terrible, till a peasant who had been cured, treated the patients with cows' milk, either in drink or clysters. Not one died; while the physicians, with numerous receipts, could save very few\*. Laffon had tried the same practice with great success, as appears in the Medical Transactions of Paris, 1779; but the Chilese peasant administered the milk pure, while Laffon mingled it with a decoction of parsley. Milk certainly, by sweetening the blood, has singular powers against this infection. The leather strap and balls, described by the author of Anson's voyage, have been already mentioned; and Herodotus informs us of a similar weapon among the Sagartii. Of the Chilese commerce some idea has been given in the account of Peru,

It occupies twenty-three or twenty-four ships, each from five to six hundred tons; bringing silver, sugar, rice, cotton, in exchange for the Chilese grain, wine, pot-herbs, conserves, dried flesh, wood, copper, &c. Ships from Spain in return for European goods, receive gold, silver, copper, vicuna wool, and dressed leather. It would be highly advantageous to Chili to open a direct trade with the East Indies\*.

Our author's account of the Chilese or Araucan language, and the vocabularies, are extremely curious and interesting. It is said radically to differ from the *quechua*, or language of Peru.

**NATURAL HISTORY.]** The natural history of Chili is as ably treated by our excellent author as the civil; nor shall this arrangement be changed in this short abstract. The length, as already mentioned, he computes at 1260 g. miles. The breadth depends on the distance of the Andes from the great ocean, being from  $24^{\circ}$  till  $32^{\circ}$ , about 210 miles; thence to  $37^{\circ}$  only 120, but from that parallel to the archipelago of Chiloe the distance may be 300 miles. Square contents, comprising the Andes, about 378,000 square miles†. The N. boundary is the desert of Atacama; on the E. the eastern branch of the Andes, which divides Chili from Cuyo, in the viceroyalty of La Plata, and from the savage tribes. On the S. our author mentions the Magellanic lands, a name totally dismissed from geography, since the voyages of Cook have evinced that there is no continent to the S. of America; and it would be idle to give the name, as restricted, to a few sandy deserts at the southern extremity of this continent. On the S. there are barren mountains, and no tribes to be feared, amidst the cold regions covered with sand and snow. Eight or nine paths open to the Andes, on the E. the most frequented being that which leads from the Chilese province of Aconcagua to Cuyo; a journey of eight days, like those over the Alps in Switzerland, on shelves in the perpendicular rocks, hanging over the profound apertures, through which wind the rivers Chilli and Mendoza. Mules are used; but the travellers are often obliged to proceed on foot. Some little plains are found, where the incas, when they subdued Cuyo, and the northern provinces of Chili, constructed little houses of stone, some of which remain. The name Chili is indigeneal, but is pronounced *Cili* by the natives, while the Spaniards use *Tchili*. All the etymologies given by geographers are false, snow being in the Chilese tongue *pire*; and the Chilese themselves pretend that the name is derived from flocks of a bird resembling the thrush, regarded as a happy omen by the first settlers. What is called the maritime part, presents three chains of hills parallel to the Andes; the mediterranean is mostly plain. The grand belt of the Andes is here about 120 miles in breadth, with transverse ridges full of stupendous ruptures and precipices; but studded with little vales and excellent pastures, watered with many streams and cascades from the rocks.

**MOUNTAINS.]** The highest mountains of the Chilese Andes are Mañña, at  $28^{\circ} 45'$ ; Tupungato  $33^{\circ} 24'$ ; Descabesado  $35^{\circ}$ ; Blanquillo,  $35^{\circ} 4'$ ; Longavi,  $35^{\circ} 30'$ ; Chillan,  $36^{\circ}$ ; Corcobado  $43^{\circ}$ †. Molina had not an opportunity of measuring the prodigious height of these mountains; but the Spaniards and Chilese suppose them to be more than 20,000

\* In his able treatise of the commerce of Peru, Lequanda has also illustrated that of Chili. The reader is referred to the account here given of the viceroyalty of Peru; or to Estalla, xx. 275.

† Storia Naturale, 18.

‡ Ib. 23.

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feet above the sea : the lowest part is in Copiapo. When our author argues against Buffon, that mountains increase in height as they recede from the equator, he shews no great acquaintance with geography. It seems to be certain that the Andes of La Paz, that is in the centre of the chain, are higher than those of Quito or Chili, nearly equidistant ; another proof that the Andes cannot be strictly regarded as passing into North America, while in fact the chief chain extends to the prodigious heights of Santa Marta, covered with perpetual snow, while another grand branch proceeds by Bogota to the N. E., being also in many parts covered with perpetual snow. The western branch, as appears from the map of La Cruz, totally perishes at the gulf of Darien ; and no snowy mountains are known in that quarter, nor in New Spain, till two other chains commence, one on the S. E., another on the N. W. of Mexico ; which are totally unconnected with the Andes, as known to every student of exact geography. The high mountains of Tibet, now known to be about 25,000 feet above the sea, on the same gigantic scale, as was to have been expected, with the rivers and other features of Asia, are much at the same distance from the equator on the N. as those of La Paz on the S. so that the highest mountains may be said to be near the tropics : and it is probable that when New Holland is fully explored, a great chain may be found to run E. and W. though the centre of the country. But from the latitude of 40° towards either pole the mountains certainly decrease in height, as known to every geologist.

**CLIMATE.]** The singularities of Peru here cease, and the four seasons are as regular as in Europe, though in an inverted order, being in the southern hemisphere. As usual beyond the tropic of Capricorn, spring begins on the 21st of September, summer in December, autumn in March, and winter in June \*. From the beginning of spring to the middle of autumn, the sky is always serene, chiefly between 24° and 25° lat. the years being rare in which a slight shower falls during that period. The rains begin in the middle of April, and last till the end of August. In the northern provinces of Coquimbo and Copiapo little rain falls ; but in the middle there are three or four days of rain, alternating with fifteen or twenty dry days ; and in the southern, the rains sometimes continue without interruption for nine or ten days. Thunder is scarcely known, except on the Andes.

**VOLCANOE.]** Volcanoes abound in Chili, the most terrible being that of Peteroa, which on the third of December 1762, opened a new crater, splitting into two parts, a contiguous mountain for the space of many miles. The tremendous noise was heard throughout the kingdom, but was not accompanied with any earthquake. The ashes and lava filled the adjacent vallies, and caused an inundation of two days in the river Tiugerica. A fragment of a mountain falling on the great river Lontua, totally stopped its course for ten days ; and the stagnated waters having formed a vaste lake, which still exists, at last opened a passage and inundated the neighbouring country. There are only two other volcanoes in Chili, which do not belong to the Andine chain, a small one near the river Rapel, which only ejects smoke ; and the great volcano of Villarica, so called, because it is near a lake of that name in Araucana.

**LAKES.]** The rivers, though sometimes considerable, have but a short course from the Andes to the ocean. There are several lakes, both

fresh and salt, the two largest being in Araucana. The Lauquen, called Villarica by the Spaniards, is about seventy-two miles in circuit, with a beautiful conic hill in the centre. The Nahuelgapi is about eighty miles in circumference; and in the centre is an island crowned with beautiful trees \*. This gives rise to a river of the same name, running towards the Atlantic, while from the first springs the river Tolten which joins the Pacific. There are many medical waters, and salt rivers. The Araucans suppose the former to be special gifts of their beneficent god Meulen.

SOIL.] The fertility of the soil excites admiration. Many parts that were in constant labour long before the arrival of the Spaniards, and have since been always cropped by them, are so little degenerated, that no manure is necessary. The grain is said to yield from a hundred to a hundred and fifty; but our exact author adds that, in general, the crop in the mediterranean lands is of sixty or seventy; and in the maritime forty or fifty; though the harvest is left too long on the ground. The soil towards the shores often resembles the fat land of Bologna, of a reddish brown, friable, tender, mixed with a little clay or marl, and sometimes presenting white or brown pebbles, arsenical and martial pyrites, with shells, madrepores, and other marine productions. That of the mediterranean parts and Andine vales is of a yellowish black, porous, friable, soft, often gravelly, and sprinkled with pyrites, flints, and decomposed marine bodies. Both these soils are of great depth, as may be observed in the water courses. There seems little doubt that the ocean has retired, and our author gives proofs that it still continues to diminish. His account of the Andes of Chili has already been given in the general view of these mountains.

MINERALOGY.] Chili is celebrated as one of the richest metallic regions. The lead is found of excellent quality, but it is only used for the fusion of silver, and a few domestic purposes. It appears in the shapes of galena, green ore, white sparry ore; and is always mingled with a little gold or silver, which is despised by the miners of this rich country. The mines of tin are yet more neglected than those of lead, in spite of their abundance, and the excellence of the mineral: they are mostly in sandy mountains, where they do not form veins like other minerals, but appear like black, little, irregular stones, which contain the metal nearly pure, with some arsenic and iron. Tin crystals of various colours are also common. Iron is so abundant, that there are few rivers which do not deposit a sandy ore of that metal. By special regulations iron cannot be wrought in the Spanish colonies, but is a monopoly of the parent country. Hence theorists have conceived that no iron exists, while many provinces of Chili present rich sources of this mineral, the compact black ore, the granular grey, and the solid cubical blue. Araucana also contains excellent mines of iron, supposed to be not inferior to that of Spain. Copper mines chiefly abound between  $24^{\circ}$  and  $36^{\circ}$  of S. lat. and the metal is equal if not superior to any discovered, being often mingled with gold, like that of Sibiria. Most of the copper ores found in Europe also appear in Chili; and the most celebrated mine is that of Payen in the country of the Puelches. That of Curico presents copper mingled with one half gold: being beautifully spotted, it is formed into bracelets, rings, and other ornaments. In other parts are large lumps of pure copper. In one province copper is found united with zinc, forming a natural brass: and our author conceives this singular mixture to

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be the effect of subterranean fires. It is of a beautiful yellow, as malleable as any artificial brass, and being found near the great river Laxa, is called Laxa copper. Vast quantities of copper are exported from Chili to Spain, perhaps more than 100,000 quintals annually, besides the export to Peru, to the amount of 30,000 quintals: not to mention the home consumption for artillery, and domestic purposes.

While copper is dispersed throughout the country, silver is only found in the high and cold deserts of the Andes, whence it is little wrought. The chief silver mines are in the province of Santiago, Aconcagua, Coquimbo, and Copiapo. The ores are of all descriptions, but the black are the most esteemed. The most celebrated mine of silver is that of Uspallata, the largest and richest of any yet wrought in Chili; and situated on the eastern mountains of the Andes, in the province of Aconcagua. This high desert produces no plant, except the *dañylis glomerata* of Linnæus; and a plain about fifty miles in length and six in breadth, called Uspallata, gives name to the mine. It is surmounted with another plain, upon which rise Andine summits of such height, that they are visible from San Luigi, at the distance of three hundred and sixty miles\*! These enormous heights, which require an entire summer day to pass them, are composed of black masses of indurated clay, in which are enshafed many round and smooth pebbles, bearing every appearance of having been rolled in water. Morales, in his description of the adjacent province of Cuyo, has observed the same surprising circumstance, which is far from being confined to the surface of the rock. The vein of silver, on the skirts of the eastern chain of the plain of Uspallata, has been traced to the enormous length of ninety miles, nor is the termination yet precisely fixed. Those who have pursued it for ninety miles declare, that it continues of undiminished opulence; and it is by many supposed to extend to Potosi, which is in the same direction, that is a space of 14° or 840 g. miles. If just, what a magnificent instance of the prodigality of nature! The grand vein is always nine feet in thickness; but on both sides numerous veins are thrown off, which, dividing into smaller branches, may be said to penetrate in all directions, a chain of mountains thirty miles in breadth. The gangart, of an earthy substance, and different colours, divides the grand vein into five parallel but unequal parts. That in the centre, only two inches in breadth, is black, though it appear white from the great quantity of metal, and is by the miners called the guide; the two next are brown; while the two external falbands are of a greyish colour. Though this wonderful vein extends horizontally, it sometimes dips so much, that some of the pits dug in 1766 went to the depth of three hundred feet; but the mineral, far from degenerating, became richer and richer. On trial by the assayers of Potosi, it was found, that the *guide* yielded two hundred marks of pure silver in the *caxon*†, the two next veins diminished to fifty; and the exterior only yielded fourteen: but on the whole equal to that of Potosi. The mine of Uspallata, though discovered in 1638, was neglected till 1762, when the people of Mendoza, a town not far from Uspallata, invited two expert miners from Peru; and they continue to work the mine with prodigious advantage.

\* Storia Naturale, 109. The direct distance can scarcely exceed 200 g. miles.

† The American metallurgists apply this term *caxon* to the quantity of mineral which one workman may extract in a day, amounting to about fifty quintals, each of one hundred pounds.



Even after this surprising description, our author asserts, that of all the metals gold is the most abundant in Chili; there not being a mountain, or a hill, which does not produce it in greater or smaller quantities; whence it is found in the soil of the plains, and abounds in the sand of the rivers. The gold of Chili is celebrated as the purest in the world, being generally found of twenty-two carats, and often of twenty-three carats and a half. In the southern provinces, between the river Biobio, and the archipelago of Chiloé, were discovered many mines of excellent gold, from which the Spaniards received immense sums, and had in consequence erected a mint at Valdivia, and another at Osorno. But the Araucans, having expelled the Spaniards by force of arms, have closed all the mines, avowing an extreme contempt for that precious metal, as the source of infamous cruelty and unmanly avarice, and the sole cause of the utter degradation of human virtue. The most considerable mines of gold now worked in Spanish Chili, are those of Copiapo, Guasco, Coquimbo, Petorca, Ligua, Tiltil, Putaendo, Caren, Alhue, Chibato, and Huillipatagua; all which, except the three last, which have been recently discovered, have, ever since the conquest, yielded a constant, and considerable product. The famous mine of Peldehue, near the capital of Chili, has been lost by the intrusion of water; and steam engines, which in the mines of Cornwall, throw out entire rivers, seem to be unknown in Spanish America. This mine yielded daily three thousand crowns of gold\*. Our excellent and exact author asserts, that the gangarts of gold are so general, that scarcely can be named an earth, stone, or metal, which does not serve as its receptacle: but I have never observed that felspar, either common or compact, serves as a gangart for any metal; which is one distinction between it and petrosilex, of which whole mineral mountains sometimes consist, as at Schlangenberg in Siberia†. This precious metal appears in grains, foliules or little leaves, in curious and fantastic shapes, the sports of nature, or in *pepitas*, irregular masses like potatoes, which may be cut with a chissel. The most common gangart, however is, by his observation, a kind of red and brittle argillaceous schistus, the same with that of Potosi; and a specimen of that of Chili may be seen at the collection of the Institute at Bologna. But the falbands which accompany the veins, and, which by the Chilese metallurgists are called the *chests*, as they contain the mineral, are sometimes quartz, at other calcareous spar, hornstone, hornblend, limestone, &c. By far the greater number of veins run N. and S. For the metallurgy our intelligent author may be consulted. He adds, that sometimes little beds of pure gold dust are found in ploughing, or making trenches of irrigation; and such beds are commonly accompanied with a red earth; being the decomposition of the argillaceous schistus. The gold of the Chilese mines, paying the royal fifth, amounts to about four millions of dollars annually; of which a million and a half are coined at the mint of Santiago. The remainder is exported, or melted into ecclesiastic and private vessels, and ornaments, especially for the women; but the quantity which escapes the tribute of the fifth cannot be computed. Any person may apply for a mine; and the president of Chili orders an officer to measure the usual space, two hundred and

\* Storia Naturale, 111.

† Consulting Hally at Paris upon this remark, he could only instance magnanese upon felspar, but upon examination it was superficial, and the gangart was not penetrated.

forty.

forty-six feet. One part gold, others, that carefully considered the course of the river were a perpetual nuisance to the governor.

BOTANY.] most of the trees, a few rarely mentioned, all the potatoes, northern products, other tropical plants, not a few, but it is probable. Maize is common. *Tuca* a species of the Spaniard. Of the latter was first brought founded with the pere, as an purple, and English garden. this strawberry call it *quelch* ble as dyes, is peculiar Granada; it is useful in distilling. The beautiful that in Ara tilling tears incense of the excellent com the shores. myrtles; the by strangers known as a *jarilla*, yield while the *pa* the banks of ro that of the beautiful ter. In the pines; the Chiloé, from will be cut from its entire thickness excellent in one, about The cinnamon ed as sacred

forty-six feet in length, and a hundred and twenty-three in breadth. One part goes to the king, but is sold to the proprietors of the two others, that is the lord of the estate and the discoverer. Proprietors carefully conceal veins, that their lands may not be injured by the course of people. When a rich vein is discovered, there follows as it were a perpetual fair; and a fixed village or town soon arises, when the governor sends a judge or alcaid.

**BOTANY.]** Molina has ably discussed the botany of Chili; but as most of the topics have been treated in the description of the viceroyalties, a few remarks may suffice. Many of the plants, and he particularly mentions nettles, are the same with those of Europe; and almost all the pot herbs and fruits of that continent flourish in Chili. The northern provinces even produce the sugar cane, the sweet potatoe, and other tropical plants. Our author has observed about three thousand plants, not to be found in the botanical catalogues of his time, 1782, but it is probable that most of them now occur in the Flora Peruana. Maize is common and abundant; the *magu* is a kind of rice, and the *tuca* a species of barley, both of them cultivated before the arrival of the Spaniards. Peas and potatoes were also well known to the Chilese. Of the latter they have thirty kinds; and perhaps this valuable root was first brought to Europe from this country, but it must not be confounded with the sweet potatoe, a tropical plant mentioned by Shakspeare, as an aphrodisiac. The large white strawberry, tipped with purple, and about three inches in circumference, not unknown in English gardens, is also derived from Chili. Molina specially describes this strawberry as of the size of a small hen's egg, and says the Chilese call it *quelghen*; and it is cultivated as a crop. Many plants are valuable as dyes, and others as medicinal. The gentian, called *cachanlabuan* is peculiar to Chili, though some botanists have ascribed it to New Granada; it is an excellent sudorific and febrifuge, but particularly useful in diseases of the throat. The *vira-vira* expels the ague; the *payco* is excellent for indigestions. Wild tobacco abounds in Chili. The beautiful flowers and shrubs are infinite. Incense, not inferior to that in Arabia, is produced by a shrub about four feet in height, distilling tears of a whitish yellow, and of a bitter aromatic taste, like the incense of the Levant. The trunk of the *puyi* supplies Chili with excellent corks. The *salsola kali*, a known alkaline plant, abounds on the shores. Chili produces no less than seven kinds of beautiful myrtles; the fruit of one yielding an excellent stomachic wine preferred by strangers to any muscatel. The *culen* supplies an excellent tea, known as a vermifuge. An acacia of the province of Quillota called *jarilla*, yields a balsam of excellent odour, used in the cure of wounds; while the *palqui* is esteemed a superior febrifuge to Peruvian bark. On the banks of the rivers Maypo and Salvia, grows the *cassia sena* equal to that of the Levant. Of ninety-seven kinds of trees, that diversify the beautiful forests of Chili, only thirteen lose their leaves in the winter. In the Andine vallies are cypresses, red and white cedars, and pines; the red cedars being often of enormous size, so that in the isle of Chiloe, from seven hundred to eight hundred planks, twenty feet in length, will be cut from one tree. The willow only differs from the European in its entire thin leaves of a yellowish green; and the infusion of the bark is excellent in fevers. There are large and beautiful *cacti*, the thorns of one, about eight inches in length, being used as wires in knitting. The cinnamon tree, which yields what is called Winter's bark, is regarded as sacred by the Araucans, who present it as a sign of peace. The

carrob

carrob has been already mentioned in the account of La Plata \*. Beautiful woods of various colours are also supplied by the Chilese forests. Vines flourish to admiration, but none appear to be native, as in North America; nor does this valuable creeper seem to be any where indigeneal in the southern hemisphere. Turkey and Persia, and perhaps Greece are probably the native seats of the cultivated vine; and wild vines occur in still higher latitudes in North America. The forests of Chili indeed abound with vines, but they arise from seeds deposited by the birds. From the confines to the river Mauli, the vines are three or four feet in height, and supported by stakes; but farther to the south they are left loose on the sides of the hills. The best wine comes from the banks of the river Itata, commonly called wine of Concepcion, because the vineyards belong to that city. It is red, generous, of an excellent flavour, and equal to the best in Europe. Great quantities are sent to Peru, but the vessels being pitched, the fragrance is lost. Muscatel wines are also excellent. The vintage is in April and May. All the other European fruits attain the greatest perfection.

ZOOLOGY.] The zoology of Chili differs little, as may be conceived, from that of La Plata and Peru; and our learned author may be consulted for an ample description. Near Coquimbo excellent oysters are found; and the beauty of the sea shells is often admirable. The rocks of Chiloe furnish the pholas, called in Italy sea-dates. There are many kinds of lobsters and crabs. Among the insects is the locust of Africa, an unpleasant but seldom destructive guest; and the parrot butterfly is of supreme beauty. Bees abound in the southern provinces. Reptiles are rare; but the sea produces seventy-six kinds of fish, all excellent and salutary. The seals called sea cows appear on the shores of Arancana. The species of land and aquatic birds amount to one hundred and thirty-five; while the sea fowl are innumerable, so that, on the shores, the firmament is often darkened by their prodigious flights. The others retire in spring to the forests of the Andes, to propagate; and on the return of winter they revisit the plains: while those who haunt the snowy mountains become white as in Europe. A species of dove and partridge is frequent: but it may be doubted whether our common fowl was known to the Chilese before the Spanish arrival, as asserted by Molina, nor is the name in their language conclusive. The beautiful flamingo decorates the banks of the rivers; and the picador or humming bird hovers round the flowers in a rich effulgence of sunny hues. There are not a few singing birds of powerful melody. The American ostrich appears in great numbers, in the Andine vallies; and especially near the great lake Nahuelgapi. In height he is equal to a man, the neck being two feet and eight inches in length: the head round, small, and cloathed with feathers: the legs as long as the neck, feet with three anterior toes, and a short one behind. The wings are eight feet in extent, and black: the back of an ash colour, while the remainder of the body is white. Some are wholly black, others white, but such may be regarded as monsters. In some respects he differs from the African, but is equal in voracity; and the female lays in the sand from forty to sixty eggs, each yielding about two pounds of excellent meat. The feathers are used for plumes, parasols, fans, &c. If there be any inferiority it is on the side of the African. Seve-

\* Molina describes it, *Ceratonia foliol. carinata, ramis spinosis*. He adds that it differs from the European, by scales four inches in length, and so hard as to be used as nails, while the pods are not different from the carabols.

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ral eagles and vultures scream among the prodigious precipices and solitudes of the Andes. The condor, a species of vulture, is the most celebrated, and is doubtless the largest bird that pervades the air. The widest extent of the wings, that fell under our author's inspection, was of fourteen feet and some inches. The body greatly exceeds in size that of the royal eagle; and is uniformly black, except the back which is clothed with white feathers. There is also a necklace of raised white feathers, about an inch in breadth: the head is only covered with a thin skin; eyes black, with an iris of reddish brown; beak four inches in length, large, aquiline, black at the base, white towards the point: chief feathers of the wing two feet nine inches in length, and four lines in diameter. The female is inferior in size, and of a brown colour; as among all the quadrupeds, birds, and fishes, the female is least favoured by nature; probably in the design of omniscience that their less gaudy colours may not attract the eye and malice of their foes, during the sacred period of gestation and nutrition. Such is the condor, an inhabitant worthy of the majestic Andes.

Some races of dogs were known before the arrival of the Spaniards; but they differ, like all the American animals, from those of the ancient continent. Molina counts thirty-six species of quadrupeds in Chili. The hippopotamus of the rivers and lakes differs from the African; and in size and form resembles a horse, but with palmated feet. This animal was however never seen by the author. There are numerous species of the seal kind: and the *chinga*, known by its pestilential ejection in its defence, is not rare in Chili. The perfume is contained in a small bladder, and does not proceed from the urine as supposed. The *culpen* resembles a fox, and has a singular curiosity to look on mankind, as he never fails to follow and stare at the traveller, though without offering any harm, surprised perhaps to see a biped without feathers. The *puma*, called by the Mexicans *mizlé*, is the animal styled a lion by the old writers; for though he has no mane, he somewhat resembles the African lion in shape and roar. His back is generally ash colour, with some sprinkling of yellow, while the belly is whitish; the length from the nose to the tail five feet, height from the top of the shoulder to the fore foot twenty-six inches and a half. The tail is two feet and one inch in length, and resembles that of the tiger. When amorous he hisses like a serpent; and prefers the flesh of the horse to any other. It being usual to couple two horses together in the pasture, to prevent their fight, he will kill one, and drive the other before him with strokes of his paw, till he has carried his companion to a proper recess. The *puma*, which is also called *pagi* in Chili, never dares to attack mankind, and a child may drive him away; but the African lion is equally dastardly, as observed by Mr. Barrow in his account of the Cape of Good Hope, who regards cunning, not courage, as its attribute. The *cuy* and the *viscaccia* an animal betwixt a rabbit and a fox, also abound. The vicuna, the *chilihueque*, and the guanaco have been already mentioned in the account of La Plata. Molina says that these three, with the *paco* and the *glama* of Peru, belong to the class of the camel. A more peculiar quadruped of Chili is the *buemul*, a singular kind of wild horse, with all the forms of that noble animal, except that it has cloven feet. Wallis observed it towards the Straits of Magellan: and he loves to haunt the most retired precipices of the Andes; where, more wild and more swift than the vicuna, the chase becomes extremely difficult.

Most of the European animals have improved in this delicious climate and fertile country; and in fire, vigour, lightness, and beauty, the horses of Chili do not yield to their fathers of Andalusia; nor have the celebrated Spanish sheep here lost any of their qualities. According to Molina this famous breed descends from the African race, which cardinal Ximenes brought from Morocco\*. Nor has that noble animal man degenerated in Chili. In 1781 died a Spanish knight, Don Antonio Boza, aged one hundred and six, who had never known sickness, and had by two wives twenty-eight sons. Molina has also known creols aged 104. 107. 115. His grandfather and great grandfather, both creols, died at the age of 95 and 96; and such examples are common even among the indigenes†. The women are fruitful, and twins common. A Frenchman, who died in 1764, left by one wife 163 descendants. Our author joins with Dobrizhoffer in the ridicule of those theorists who assert the similarity of the American physiognomy. The Borocans, as already mentioned, have flaxen hair and blue eyes; and a Chilense does not differ less from a Peruvian than a German from an Italian. The tribes of Paraguay, Cuyo, and Tehuelia, have all their peculiar lineaments. They have little beard, because it is eradicated; and the hair of puberty, supposed by Dr. Robertson to be very spare, is on the contrary copious, but eradicated like the rest. The arguments against the vigour and appetite of these tribes are alike unfounded‡. On the S. of Chili are the Poyas, a race equal to the Tehuels in stature.

NATURAL CURIOSITIES.] That the sea gradually retreats from the coast of Chili is matter of annual observation. In some places the land left is two inches, in some half a foot, especially near the mouths of rivers; where the part left is the first year covered with loose sand, in the second produces some herbs, and in the third is completely covered with verdure. The shore of Chili consists mostly of a plain, five or six miles broad, between the sea and the maritime mountains; their sides bearing evident marks of the lowering of the ocean, which has sometimes formed curious grottos with different chambers, hung with shells or stalactites, where beasts take refuge in the winter.

At the distance of four hundred paces from the mouth of the river Mauli, on the left hand, there is on the sea shore a mass of whitish marble, about seventy-five feet in height, quite detached; the length from E. to W. being 224 feet, and the breadth 54. It is commonly called the Church, and has in fact all the appearance of one, being excavated in the inside into a vault more than one-third of its exterior height, and having three doors of a proportional height and breadth and semicircular form; one at the western end, where the sea, the great architect of this singular edifice, enters, and two lateral doors exactly opposite, through which the sea retires during the reflux. This natural edifice, of which half is still bathed by the waves, serves as a

\* Might not the original race be still tried, and gradually habituated, by being at first restricted to warm S. W. counties of England? Certainly the experiment deserves attention, particularly as the pastures in Morocco, may perhaps approach nearer to the English, or at least not abound in aromatic plants, so much as those of Spain. The wool of the African kind seems coarse, and it is probably the change of the climate that occasions the fineness of the fleece.

† Molina does honour to the creol race, for a more clear, scientific, and intelligent account of any country was never written by any author of any age or climate.

‡ It is to be regretted that this great writer had ever perused the dreams of Pauw; for he is seldom vulnerable, except where he follows that idle theorist, whose works are now deservedly forgotten.

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residence for a great number of sea wolves, whose cries resound through the vast concavity; while the top is covered with white sea fowl called *lili*, in size and figure resembling doves. On the coast of the province of Rancagua is another similar, and now free from the sea. The people in the neighbourhood, who call it the church of the Rosary, wish to have it consecrated for divine service.

### PORTUGUESE POSSESSIONS.

THE dominions in South America, held by the small kingdom of Portugal, extend from the frontier of Dutch Guiana, lat.  $3^{\circ}$  N. to port St. Pedro, S. lat.  $32^{\circ}$  being thirty-five degrees, or 2100 G. miles: and the breadth, from Cape St. Roque to the farthest Portuguese settlement on the river of Amazons, called St. Paul de Omaguas, equals, if it do not exceed that extent. This vast territory, rivalling the empires of antiquity, is still more unknown than the Spanish possessions, partly from the want of science and curiosity, partly on account of the thick forests which cover the extensive plains of the Marañon, and its auxiliary streams. Though long in strict alliance with Portugal we have little precise knowledge of Brazil; and still less of the interior country so absurdly called Amazonia, but more justly by the Spaniards the Land of the Missions. The chief city of Brazil was formerly Bahia or San Salvador, which has since yielded to Rio Janeiro. The others are Para and Cayta near the estuary of the Marañon, with a few small settlements on that river; Paramboco, Sergippe, Paraíba, Villa Grande, &c. the chief settlements of the Portuguese being only thinly scattered along the shores. The fanaticism of the Spaniards and Portuguese is an invincible obstacle to the population of some of the finest regions of the globe; while by the free admission of all sects, as in the territory of the United States, industry and population would increase with surprising rapidity.

Brazil, as is well known, derived its name from the wood so called, which was known long before the discovery of America. It is now divided into eight independent governments, besides that of Rio de Janeiro, of which alone the governor retains the style of viceroy of the Brazils\*. The discovery and improvement of the gold and diamond mines, about one hundred leagues to the N. W. having secured to Janeiro a decided preponderance. "But all the provinces are growing fast into opulence and importance. They manufactured of late several of the most necessary articles for their own consumption; and their produce was so considerable that the balance of trade began to be already in their favour; and remittances of bullion were made to them from Europe, in return for the overplus of their exports beyond their imports†." From the same account it appears that the Portuguese settlers have shewn repeated symptoms of revolt from the parent country. The population of this large portion of South America has not been accurately detailed; but it would seem that the Portuguese and their descendants cannot amount to half a million, while the natives may be three or four millions‡. The diamond mines belong exclusively to the crown: and one-fifth of the gold is exacted. There are also numerous taxes and impositions, which instead of enlarging

\* Staunton, Embassy to China, i. 204.

† Ib.

‡ According to Staunton, in 195. all the whites in the Brazil were computed at 200,000, the negroes 600,000. Probably the natives do not exceed one million.

the revenue are the grand causes of its diminution; and the expences of government consume about one-third of the million sterling, which Brazil is supposed to yield to Portugal\*. The European settlers are in general gay and fond of pleasure; yet, as at Lisbon, extremely observant of the ceremonies of religion, or rather of the etiquette of the Virgin Mary, who is stuck up in a glass case at every corner. Cloaks and swords are generally worn by the men. The ladies have fine dark eyes, with animated countenances, and their heads are only adorned with their tresses, tied with ribbons and flowers. The convents and monasteries are numerous, and the manufactories rare. Labour is chiefly performed by slaves, about 20,000 negroes being annually imported; even the monks and clergy keep black slaves. The indigenes are said to be irreclaimable savages, under the middle size, muscular, but active; of a light brown complexion, with straight black hair, and long dark eyes. They chiefly subsist apart, on the coast between Janeiro and San Salvador. Their language has not been investigated by the incurious Portuguese, who seem destined by nature to cover the faults of the Spanish colonists, and to evince that even European nations may be found destitute of knowledge and intelligence.

The harbour of Rio Janeiro is spacious and excellent; and surrounded by a fertile country. It is protected by the castle of Santa Cruz, erected on a huge rock of granite. On the west is the city of St. Sebastian, commonly called Rio de Janeiro, built on a tongue of land, the hills and rocks behind being crowned with woods, convents, houses, and churches†. On a small isle are a dock yard, magazines, and naval store-houses; and there are several other isles in the harbour behind the town. The streets are generally strait and well paved. Water is supplied by an aqueduct on the Roman plan. Yet the situation of this beautiful city is said to be unhealthy, owing to the exhalations from the primitive inland forests. There are manufactories of sugar, rum, and cochineal; and several districts produce cotton, indigo, coffee, cacao or chocolate, rice, pepper, and the noted Brazilian tobacco. The red or Brazil wood is the property of the crown. The natural history has been little explored: the circumjacent rocks are granitic, white, red, or deep blue, the last being of a close and hard texture.

**MINES.]** Concerning the celebrated mines of Brazil there is little information. They are principally situated in the mountains which give source to many streams that flow north and south into the river Tocantim, on one side, and the Parana on the other. The diamond mines are near the little river of Milboverde, not far from Villa Nova do Principe, in the province of Serro de Frio, S. lat. according to La Cruz 17° about long. 44° W. from London. This singular substance is not certainly known to be produced in any other part of the world, except Hindostan, and chiefly about the same north latitude 17°; but the diamonds of Brazil are not of so fine a water, being of a brownish obscure hue. In the northern provinces of Brazil there are numerous herds of wild cattle, which are slaughtered for the sake of the hides. The river of St. Francisco is remarkable for passing a considerable way under ground, after it has attained a great size.

**BOTANY.]** The jealousy and inertness of the Portuguese government have effectually prevented any regular and scientific account of the natural productions of their vast and opulent dominions in S. America; and the few scattered fragments of Brazilian botany are chiefly to be collected

\* Staunton, i. 208.

† Ib. i. 175.

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from the journals of those navigators who have touched at Rio Janeiro, and from the *Flora Lusitanica* of Vandelli, which contains a few plants of Brazilian origin. The esculent plants are such as are common to all the tropical regions of America, among which may be distinguished the plantain, the banana, the cocoa nut, the chocolate nut, the yam, potatoe, cassava, together with numerous species of melons and gourds. Of fruits the number is scarcely to be reckoned; the principal of them however, such as the pine apple, the mango, and the tamarind, have already been repeatedly mentioned in the account of the botany of the East and West Indies. The warm aromatic plants that are found here in a truly indigenous state, and are much used by the inhabitants as condiments to their food, or the basis of various drinks, are the ginger, the turmeric, several species of pepper, American coffee, capicum or Guinea pepper, and the wild cinnamon or canella. Several medicinal plants of high estimation, though not peculiar to Brazil, yet grow here spontaneously and in abundance; these are the contrayerva, the Indian pink, the mechoacan, the jalap, the tree yielding the gum elemi, and the guaiacum. Woods for ornamental cabinet work, or for the use of the dyers, which are at present chiefly furnished by the more enterprising activity of the Dutch, French, and English colonists of Guiana and the West Indies, might be procured in equal perfection and variety from Brazil; such are the logwood, fustic, mahogany, ebony, Brazil wood, rose wood\*, satin wood, and a multitude of others. The merely ornamental plants are almost wholly unknown, but the Brazilian myrtle, the scarlet fuschia, and the incomparably splendid amaryllis formosissima, compose a most promising sample of the hidden treasures of this delightful country.

### FRENCH.

THE French settlements in Guiana were first formed about the year 1635, and extend from the mouth of a small river called Amano, W. to another called Aracara, E.; though recently the limit was attempted to be extended, at the expence of the Portuguese, to the estuary of the Maranon. On the S. the line seems arbitrary; but the whole extent does not exceed 350 B. miles in length, by 240 in breadth. The chief town is on a small isle called Cayano, whence the whole territory is commonly styled Cayenne. The soil and climate in general seem unexceptionable; but the situation of the town being ill chosen, in a swampy isle, its disadvantages have been largely ascribed to the whole possession. In the town are about 1200 white inhabitants, exclusive of the garrison. This colony seems to have been always neglected by the parent country; and the inland parts remain obstructed by thick forests and underwood; and during the rains many parts are inundated. The dry season is from June till October, and the heaviest rains in our winter months. The Cayenne pepper is a noted product of this country, and the inhabitants using it to excess, a considerable quantity is always imported from Peru. Other products are sugar, cocoa, vanilla, and indigo.

\* In Brazil called *jacarareia*.

## DUTCH.

THE Dutch possessions in Guiana commenced in 1663: but four years afterwards they were expelled by the English, whose descendants form part of the colony resumed by the Dutch in 1676. Dutch Guiana is to the N.W. of the French settlement, and is often called Surinam from a river of that name, on which the capital is situated. The length S. E. to N.W. is about 350 B. miles, along the shores of the Atlantic: but the breadth is only 160. The chief towns are Paramaribo on the west bank of the Surinam, also called the Zeeland river, and New Middleburg near the N. W. extremity of the colony: Demerara is a settlement on a river of that name. The white inhabitants of the capital are computed at 1800. The largest river is the Esquivo, N. W. which receives the short stream of the Demerara. The Berbiz and Corentin are also considerable rivers. The wet and dry seasons alternate, each for three months. No mines have been discovered by the Dutch, who always prefer certain returns; and are far from being in sufficient force to contest the inland parts with the savages, and Spaniards. Yet from the river Esquivo there is no difficult access to the lake of Parima, the fatal object of the wishes of Sir Walter Raleigh\*. Bancroft confesses that they never penetrate even the lower forests. The natives are of a reddish brown or copper colour, like the other American tribes. Those towards the coast are Caribbees, who being called in as auxiliaries to suppress a negro revolt, devoured the bodies of the slain†. The Worros are another maritime tribe; but the Arrowaks are the most distinguished by elegance of form, and mildness of disposition. They believe in a supreme deity, and in inferior malign spirits called Yawahoos. The priests or magicians are styled Peiis, the distinction being hereditary.

There are more materials for the botany of Guiana collected by the French, Dutch, and English settlers, than for any other part of South America; and in consequence of the swampy soil and moist atmosphere of this region, it presents a vigour and wild exuberance of vegetation, perhaps without parallel. All the usual tropical productions, except those that delight in dry and sandy tracts, are found here in full perfection: the names and qualities of these however we shall not again repeat, but proceed to the notice of those which are more properly characteristic.

Besides the common species of palms, there are two which are reckoned almost peculiar to this part of America, but which, together with many other of the native plants of Guiana, have not yet found their way into the Linnæan-system. One of these called the cokarito palm, is remarkable for its hard splintery wood, of which the small poison arrows are constructed. The other, the manicole palm, grows only in the deepest and most fertile soil, where it attains the height of fifty feet, while its stem in the thickest part is scarcely nine inches in diameter. The annotta seems to be here in its favourite climate, as appears from its magnitude of growth and brilliancy of colour. The quassia, whose intense bitterness is become of late but too familiar to English palates,

\* He attempted to penetrate by the river Caroni, which rises N. of the lake, and flows into the Orinoco. The sands of this lake were supposed to be of gold, and in the vicinity was the fabulous golden city Manoa del Dorado.

† Bancroft, 260.

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and the *fimarouba*, a medicinal drug of great efficacy, are also natives of Terra Firma; nor among the materials which the healing art derives from this country, ought we to omit the mention of the ricinus or castor oil nut, the cassia, the palm oil, the cowhage, the balsam of *capiwi*, and *ipecacuanha*. An herbaceous plant called *troolies*, grows here, whose leaves are the largest of any yet known; they lie on the ground, and have been known to attain the almost incredible length of thirty feet, by three feet in width: so admirable a material for covering has not been bestowed on this country in vain: most of the houses are thatched with it, and it will last some years without requiring repair. The singularly elastic gum called *caoutchous* is produced from a large tree inhabiting French Guiana, and here it is used for vessels of various kinds, and for torches. A small tree called *caruna* yields a farinaceous nut, from which the slow poison of the *Accawan* Indians is prepared, the certain though protracted instrument of jealousy or revenge. Still more certain, because more rapid, is the *Ticuna* poison, the dreadful equal of that from *Macassar*: it is prepared from the roots of certain climbers called *nibbees*, which inhabit the entangled forests of these immeasurable swamps, and are a worthy shelter to the panthers, the serpents, and all those monstrous and abominable reptiles that generate and batten in this pestilential atmosphere.

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## NATIVE TRIBES

AND

## UNCONQUERED COUNTRIES.

SOME account of the Peruvians has already been given, and the names of the savage tribes of South America are so numerous, that they might be counted by hundreds. Nor has any classification yet taken place according to languages; when probably these numerous families might be reduced to five or six great denominations, as has been recently effected in arranging the tribes of Siberia. It was believed that Guiana contained a considerable nation, with cities and towns; but on the contrary, it is divided among numerous tribes, among which are many of the Caribs or Caribbees, the most ferocious of savages. The nations are distinguished from the strolling families, but even these are merely tribes from two to five thousand souls. Of the indigenes of Darien a minute account has been given by Waser, and of the Caribs by Edwards, of the Tehuels or Patagonians by Falkner. A German missionary, who resided twenty-two years in Paraguay, has published curious details concerning the Abipons, whom he calls a warlike nation, but who only constitute a tribe of about five thousand, on the Rio Grande, which joins the Paraguay near its union with the Parana. The Abipons being less known to the English reader, some account of them may be selected. They are rather a warlike race, and by a novelty in American manners, chiefly cavalry, securing and taming the wild horses introduced by the Spaniards; and in the same quarter the Mocobs, Tobas, and Aucas, are also warlike and independent tribes. In this part of America greater fairness of complexion seems to prevail,



than in the exterior provinces; and the women approach the tint of Spaniards. The Abipons were anciently named *callegas* by the Spaniards, on account of their singular practice of eradicating the hair over their foreheads, so as to produce the appearance of baldness; but their features resemble the European, and the nose is commonly of an aquiline form\*. They carefully eradicate the beard, and mark their foreheads and temples with particular scars, by way of ornament. The males are accustomed from childhood to the use of the bow. Hunger alone dictates the time to eat; and they consume vast quantities of animal food. Personal cleanliness is preserved by frequent bathing in the lakes and rivers. They have no idea of a supreme deity, but acknowledge an evil demon whom they commonly attempt to flatter by calling him their uncle. Their magicians are called *Keewet*, and they have great power, as usual among savage tribes, a tribute of ferocity to knowledge. Polygamy is allowed, but not frequently practised; and the babe being suckled to the age of three years, the mothers frequently destroy their offspring, that they may devote their attention to their husbands. They have no idea of a monarch, but are ruled by many caziks, whom they call *capitas*, from a Spanish term: and are not advanced to the agricultural state: but they are not cannibals, like some of the surrounding nations. From the thickness of the skin, or some other cause, the small pox is pestilential to the indigenes of America. The Abipons chiefly bury their dead under the shade of trees; and the horses of a chief or warrior are always sacrificed on the occasion. The bones are afterwards disinterred, and carried to a considerable distance. They have rendered themselves formidable to the inland colonists by their warlike spirit; and are armed with spears five or six ells in length, and with arrows sometimes pointed with iron.

The extremities of South America, towards the strait of Magalhaens, may, as already mentioned, be regarded as independent. Towards the east are vast saline plains, called by the Spaniards, *Comarca Desierta*, or the desert territory, whence the desert of *Comarca* in our maps. The natives of this region are described by Falkner, who says that a cazik of the *Puelches* or *Patagonians* with whom he was acquainted, was seven feet and some inches in height. The *Moluches* form another nation or tribe called by the Spaniards, *Araucanos*†. The *Puelches*, by his account, are divided into three or four tribes, the most southern being the *Tehuels*, extending on the east to the straight; as the *Huiliches*, a tribe of the *Moluches*, do on the west. The *Tehuels* are the proper *Patagonians*, and may be called the *Tatars* of South America, being wandering warriors, but courteous and humane. The dead among the *Moluches* are buried in square pits, in a sitting posture, with their weapons and drinking utensils; and an old matron annually opens the grave to cleanse and clothe the skeletons. Around are those of the slain horses, supported with props. The *Tehuels*, after having dried the bones of their dead, transport them to the desert on the sea coast, where they are placed in huts or tents, surrounded by the skeletons of their horses; but the latter practice must be of comparatively modern date. These tribes have hereditary caziks, and they sometimes choose a commander in chief, whence they are more formidable to the Spaniards than the northern tribes. The singular aspect of *Patagonia*,

\* Dolrizboffer, li. 15. 21, &c.

† The *Araucanos*, that is *insurgents*, extend from the river *Biobio*, lat. 37°, to the river *Callacalla*, lat. 40°. See the map in Molina, *Storia Civile del Chili*, Bologna, 1767, 8vo.

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delineated with innumerable streams ending in little lakes, may well appear foreign to the course of nature. Yet this country has many singularities. There is an immense tract of territory impregnated with nitre, about 600 miles in length and 150 wide, on the south and west of the river Parana, and even to the junction of the Paraguay, all the springs and rivulets being more or less saline. No productive mines have yet been discovered; except some of silver, near Mendoza at the bottom of the Andes. The rivers that wash this country all come from the high mountains of Yacanto, or Sacanto, Champachin, and Achala on the W. of Cordova, which are little inferior in height to the Andes of Chili, and are a kind of branches of those of Peru. That part of the Andes which lies W. of Mendoza is of a vast height, and always covered with snow; and there are numerous volcanoes in the southern part of the Andes, as that of St. Clement, lat.  $46^{\circ}$ , and others in a continued progress to lat.  $31^{\circ}$ .

### ISLANDS BELONGING TO SOUTH AMERICA.

THESE shall be traced from the west towards the east. The desert isles of Galapagos have already been mentioned in the account of Polynesia, or the islands in the Pacific; and that of St. Felix is of no consequence. The isle of Juan Fernandez, so called from the first discoverer, is only about four leagues in length, with an anchoring place on the northern coast, which is diversified with many beautiful kinds of trees. The southern part is precipitous and barren; but there are some hills of a red earth approaching to the colour of vermillion. Many antiscorbutic plants are found on Juan Fernandez, which is celebrated in the voyage of Anson.

There are two remarkable archipelagoes towards the southern extremity of this continent. That styled the gulf of Chonos, or the archipelago of Guaytecás; and that called the gulf of the Holy Trinity, or the archipelago of Toledo. The most remarkable isle in the former is that of Chiloé about 140 B. miles in length by thirty in breadth, but almost divided in the middle by bays or creeks. The chief harbour is Chacao on the N. and at Calbuco there is a corregidor, nominated by the president of Chili; there are also two monasteries and a church\*. The isle of Chiloé is said to be well peopled with Spaniards, mulattoes, and converted savages. In the second archipelago, which approaches the antarctic frosts, is the island of St. Martin, in which there seem to be some Spanish settlements or factories: and not far to the S. begins that broken series of wintry islands, called the Terra del Fuego, from two or more volcanoes, which vomit flames amidst the dreary wastes of ice. In the map of La Cruz the Terra del Fuego is divided by narrow straits into eleven islands of considerable size. In their zeal for natural history, Sir Joseph Banks and Doctor Solander had nearly perished amidst the snows of this horrible land; but they found a considerable variety of plants. The natives are of a middle stature, with broad flat faces, high cheeks, and flat noses, and they are clothed in the skins of seals. The villages consist of miserable huts in the form of a sugar loaf: and the only food seems to be shell fish. This dreary region is not however so completely oppressed by winter, as has by some been imagined, the vales being often verdant, and enlivened with brooks, while a few trees adorn the sides of the hills. The isle called Staten-

\* Ullon, li. 264.

land is divided from the Terra del Fuego by the strait of Le Maire. Here also Captain Cook observed wood and verdure. So much more severe is the cold in the antarctic region, that these countries only in lat. 55°, or that of the north of England, are more frozen than Lapland, in lat. 70°.

To the N. E. are the islands called Falkland by the English, but by the French, Malouins, from the people of St. Maloes, whom they esteem the first discoverers. In 1763 the French, having lost Canada, turned their attention towards these islands, as an American settlement in another quarter; and the account of Bougainville's voyage for that purpose contains ample details concerning these islands. There are two of considerable size, each about 40 miles square. The soil and climate do not appear to be laudable, but there is a considerable variety of fowls and fish; and the plants seem somewhat to resemble those of Canada. The walrus, and other animals of the seal kind, frequent the shores. In 1764 Commodore Byron was sent to take possession of these islands, which were undoubtedly first discovered by the English; and a little establishment was made at a place called Port Egmont, but being found of little or no value they were in a few years ceded to Spain. The soil is marshy, and even in summer there are perpetual storms; and the Spaniards seem only to retain a small factory on the north.

In this department may also be arranged, an island of considerable size to the S. E. of the Falkland islands, discovered by La Roche in 1675, and afterwards named Georgia by Captain Cook, who explored it with some attention in 1775. It may be called a land of ice, presenting rocks and mountains of that substance, while the vales, destitute of trees or shrubs, are clothed with eternal snow; the only vegetables being a coarse species of grass, burnet, and lichens. The rocks are of blackish horizontal strata. The lark, a hardy and universal bird, appears here as well as at Hudson's Bay, and there are numbers of large penguins and seals. Still farther to the S. E. are, if possible, more dreary regions, styled Sandwich Land. These may be esteemed the southern throne of winter, being a mass of black rocks covered with ice and snow.

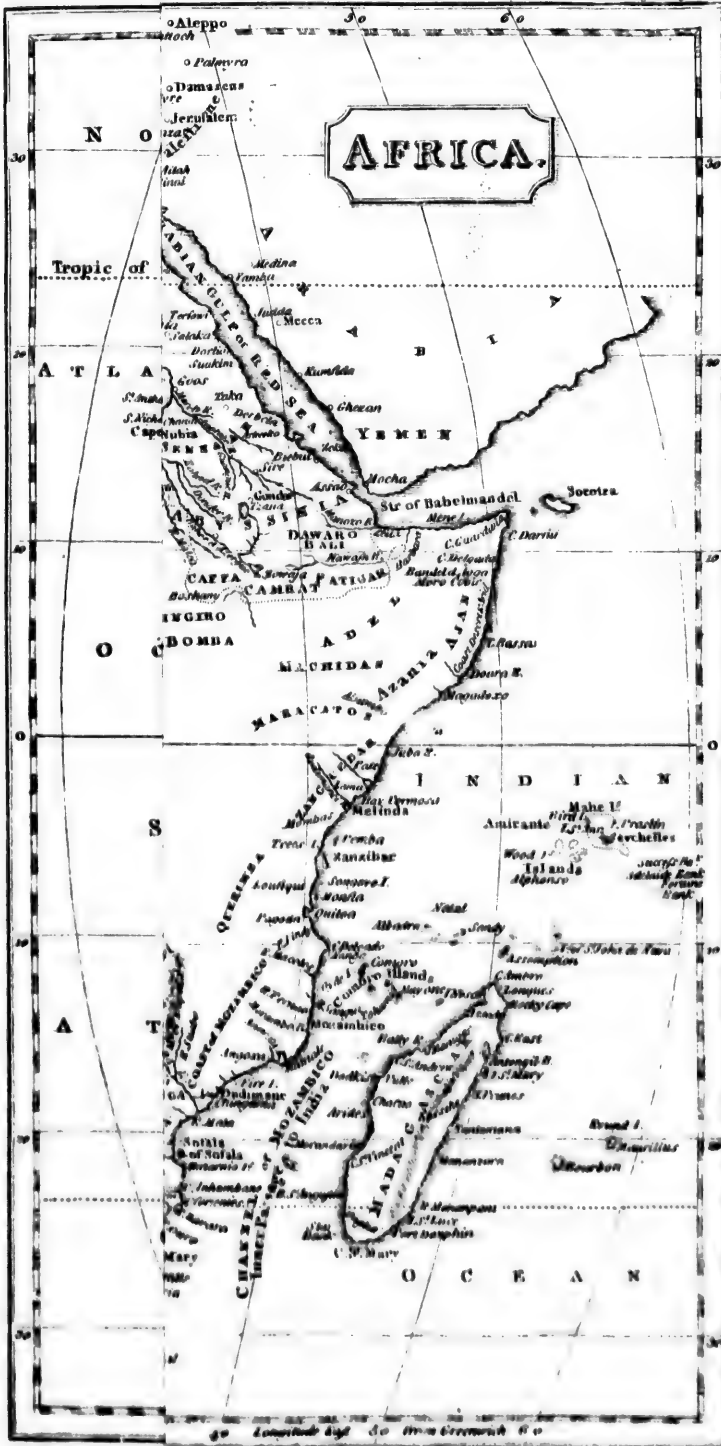
Among the few islands to the E. of South America, may be mentioned that of Ascension or Trinidad, and that of Ferdinando Noronha; that of Saremberg may also be regarded as an American isle, while Tristan da Cunha rather belongs to Africa.

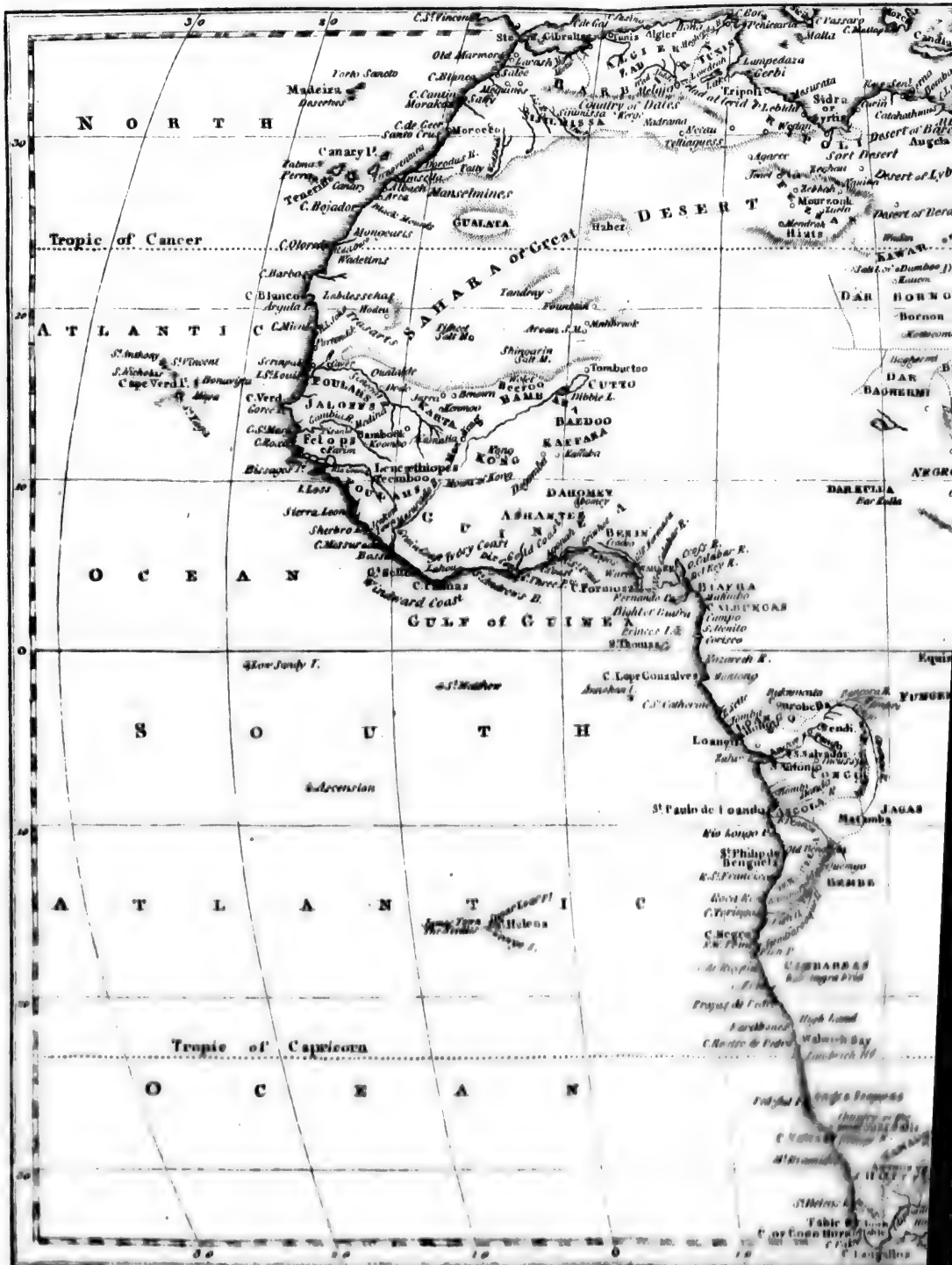
## AFRICA.

*Extent. — Original Inhabitants. — Progressive Geography. — Religion. — Climate. — Rivers. — Mountains. — Deserts.*

**T**HIS continent is, after Asia and America, the third in size; but in political and ethical estimation is the last and meanest of the four great divisions of the earth. From the southern extremity to the Mediterranean are about 70 degrees of latitude, or 4200 G. miles. The breadth, from 18° west to 51° east, may be assumed on the equator at 4140 G. miles. The name is supposed to have spread by degrees from a small province, in the north, over the rest of the continent. In the central parts on the south the population appears to be indigenous and peculiar,







From Aden's Map of Africa  
Published North 17th St. by Smith & Davis Street and Low





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peculiar, these being the native regions of the negroes, whose colour, features, and hair distinguish them from all the other races of mankind. In the northern parts there have been many successions of inhabitants, the Egyptians and Abyssinians being of Arabian extract; while farther to the west the Carthaginians passed from Syria: and according to Sallust, who refers to Punic manuscripts, other maritime parts were peopled by the Medes, Persians, and Armenians. The original inhabitants of the northern parts appear to have been, in all ages, radically distinct from the negro race, from whom they were divided by the great desert of Zaara; and in the eastern parts the latter were yet farther repelled by the Arabian colony which settled in Abyssinia\*. These northern inhabitants sent considerable colonies into Spain; and from the Roman historians it appears that they had made some progress in the arts of life. Even Herodotus is no stranger to these two distinct races of mankind.

The Romans appear to have explored the north of Africa as far as the river Nigir; and they established flourishing colonies in many parts. Upon the fall of their empire, the Vandals of Spain passed into Africa, A. D. 429, and established a kingdom which lasted till A. D. 535. In the following century the Mahometan Arabs subdued the north of Africa; and under the name of Moors constitute a great part of the present population. There have been recently discovered in the interior some nations or tribes of a copper colour, with lank hair; but the geography of this country is too imperfect to admit of precise illustration of these topics.

PROGRESSIVE GEOGRAPHY.] The progressive geography of this continent might supply topics for a long and interesting dissertation. Herodotus, whose African geography has been amply illustrated by Rennell, was no stranger to the northern parts, from Mount Atlas in the west to the Ethiopians above Egypt; and specially mentions the great central river or Nigir, as running towards the east. Concerning the voyage of Hanno the Carthaginian the learned have not agreed; and far less concerning the voyage said to have been performed by the orders of Necho king of Egypt. Rennell supposes the ancient knowledge of the African shores to have extended to Sherboro Sound, to the south of Sierra Leone.

On the eastern shores the knowledge of the ancients does not appear to have extended beyond the isle of Pemba, S. lat. 5°, or the vicinity. But of the interior parts Ptolemy, who resided in Egypt, appears to have had more precise knowledge in the second century, than has since been attained in any age. The most striking defect in his map of Africa is, that proper space is not left for the great desert of Zaara. Hence the source of the Nigir, lat. 11°, is elevated to lat. 18°, and its course approaches the Land of Dates. On the other hand the southern parts of Ptolemy's map are too much expanded, and filled with numerous names of small tribes, like La Cruz's map of South America. The most remarkable feature in the description of the Egyptian geographer, is the river Gir, which he delineates as equal in length to the Nigir; but running from east to west, till it be lost in the same lake, marsh, or desert, as the Nigir. This name of Gir or Ghir, is certainly just and native, as there is another river of the same name in

\* Other ancient Arabian colonies seem to have penetrated far to the south, and are traced in Madagascar and the opposite shores.

The actual population of Africa cannot exceed thirty millions, or perhaps even twenty.

the country of Tafilet or Sijilmessa: and it is not a little surprising that Rennell, in his theory of these regions, should have totally omitted this striking feature. The river Bahr Kulla of Browne appears to be the Gir of Ptolemy.

It is remarkable that Ptolemy's description of these shores extends little beyond the Fortunate or Canary islands, though it may have been expected, that as one of these islands was assumed as the first meridian, their position should have been pretty accurately determined. If the ancients had discovered Cape Verd, it is probable that the islands called by the same name could not have escaped their knowledge; yet no geographical inquirer has been led to infer that their geography extended so far; nor do the Arabs appear to have made any discoveries in this quarter. On the contrary, even the memory of the Fortunate islands appears to have been lost, when the Normans of France, a people who inherited from their ancestors, the Norwegians, a singular disposition for maritime enterprise, again discovered them in the fourteenth century; and in 1402 they were conquered by Bethencourt\*. This achievement appears to have acted as the first impulse towards any efforts in that quarter. In 1412 John I. king of Portugal, resolving to retaliate the attacks of the Moors, fitted out a fleet to assail the coasts of Barbary; and a few vessels were dispatched to explore the southern part of that country, as an attack from behind, or in an unguarded quarter, might reasonably promise more decisive success. Cape Nun had before been the utmost limit of Portuguese adventure, which was now extended to Cape Bojador. Prince Henry, the fourth son of king John, being fortunately a lover of science, fitted out ships to prosecute the discovery; and in 1419 Madeira was discovered †, and its fertility and exquisite climate soon invited a small colony.

Yet so slow was the progress of discovery in Africa, that Cape Bojador ‡ was first passed in 1433 §: but the impulse having become vigorous, the discoveries were now more rapid; and in the space of a few years all the coast from Cape Blanco to Cape Verd, with the river of Senegal, was unveiled by the Portuguese, assisted by Italian navigators. So important did these discoveries now appear, that pope Eugene IV. granted a bull of possession to the Portuguese, of all the countries which they should discover, from Cape Nun to India. The islands of Cape Verd were discovered in 1446 ||; and the Azores, which from their relative position strictly belong to Europe, were all known before 1449. Yet in 1463, when prince Henry died, not above 1500 miles of the coast of Africa had been visited; and the equator was not passed till 1471. But the discovery of the gulf of Guinea, which in the ancient ideas might have been expected to terminate the continent; and of the still farther southern protrusion of the African shore; were far from being inconsiderable achievements.

The protection of John II. king of Portugal led to still farther discoveries. Congo arose to notice in 1484; and the stars of another hemisphere began for the first time to appear to astonished Europeans.

\* Histoire de la premiere Decouverte et Conquete des Canaries. Paris, 1630, 8vo.

† Bergeron, p. 32, says that Madeira had been already discovered by the English, 1344.

‡ This word in the Portuguese signifies a doubling shore: in the Spanish *lajar* is to compass or go round. Currents render this whole coast extremely dangerous; and the safest navigation is on the west of the Canaries.

§ Robertson's America, i. 59.

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Hopes were soon entertained of a maritime passage to India; and an embassy was dispatched to Abyssinia to secure the friendship of the monarch, in case the circumnavigation should be completed. At length, in 1486, the conduct of a voyage for this purpose, the most arduous at that time attempted in modern history, was committed to Bartholomew Diaz, who discovered near a thousand miles of new country; and at length descended that grand promontory, the utmost southern limit of Africa. But such was the violence of the tempests, that Diaz found his fleet unfit to navigate unknown seas, where the chance of refitment was uncertain; and, after a voyage of sixteen months, this great navigator was constrained to return, having named the utmost promontory *Cabo Tormentoso*, or the Cape of Tempests; but king John, as a better omen, assigned the received appellation of the Cape of Good Hope.

Intelligence from Abyssinia having confirmed the possibility of a passage and trade with India, another expedition was instituted, which was farther stimulated by the grand discoveries of Colon in 1492; and the success of Vasco de Gama, who, on the 20th November 1497, passed the Cape of Good Hope, and explored the eastern coast of Africa as far as Melinda in Zanguebar, whence he passed to India and arrived at Calicut 22d May 1498, is recorded as the most distinguished period in African geography.

But that of the interior was destined to remain in obscurity, though, early in the sixteenth century, Leo gave an ample description of the northern parts; and Alvarez who visited Abyssinia in 1520, published a minute account of that country\*; which was farther illustrated by those of Lobo and Tellez. The Portuguese established several factories and settlements in the west, in order to secure the trade in gold and ivory: and the additional title of king of Guinea had been assumed by the Portuguese monarchs. The accounts of the missionaries gradually enlarged the knowledge of African geography. Yet from peculiar circumstances that knowledge continues extremely limited: the vast sandy deserts, high mountains, impenetrable forests, the unintermitting wars of the petty tribes, more spirited and ferocious than those of America, and unawed by European troops, or conquests; and particularly the antipathy of the African Mahometans, many of them expelled from Spain, and retaining hereditary rancour against the Franks; have presented obstacles almost unconquerable. Recently Browne has disclosed the small kingdom of Fur or Darfur, and some circumjacent territories; and particularly the river of Bahr Kulla, which seems, as already mentioned, to be the Gir of Ptolemy. The travels of Park establish with certainty that the Nigir flows to the east, as long before delineated in the maps of D'Anville, Gendron, and others; and shew that its western sources are nearer the shore than had been imagined. The endeavours of the African Society at London, to promote the geography of this continent, deserve the greatest applause, and their publications are valuable records of the science. It is to be hoped that Mr. Hornemann, who has the advantage of profiting by the advice and even dis-appointments of his predecessors, and seems to have in consequence adopted the necessary concealment and precautions, will at least succeed

\* One of the best translations of Leo is that in English by Pory, at the request of Hakluyt, with a map and additions prefixed, containing all the knowledge acquired at that time: London 1600, folio. The work of Alvarez was translated from Portuguese into Spanish. Antwerp, 1557, 12mo. p. 411.



in detecting the termination of the Gir and Nigir, and in visiting the neighbouring cities, particularly Tombuctoo.

**RELIGION. &c.]** The ruling religion of this continent is the Mahometan, which has unfortunately penetrated farther in the interior, than was at first conceived; and has presented a great obstacle to such travellers as, being unaware of this circumstance, have neglected the disguise and simulation, indispensable amidst such a fanatic and intolerant race. The climate, which in the north is intensely hot, is rather more moderate in the southern extremity, the antarctic pole being more powerful than that of the other pole. In the centre it would appear that there is a prodigious ridge of mountains, extending from those of Kong in the west to those of Kumri or of the moon, and those of Abyssinia in the east; the whole range being about N. lat.  $10^{\circ}$ . And from this another chain seems to extend, about long.  $30^{\circ}$  east from Greenwich, in a southern direction.

In Africa the want of inland seas is not supplied, as in South America, by large navigable rivers; and the singular deficiency of both may be regarded as a radical cause of the striking want of civilization, and slow progress of African geography. For inland seas, or navigable rivers, would have naturally invited commercial intercourse and foreign settlements, on a far larger scale than the small factories near the coast; and the more southern parts might thus have rivalled the ancient fame of those on the Mediterranean and the Red Sea. But these grand inlets are rather boundaries of Africa; and there are no navigable waters which can diffuse commerce and industry from the shore to the centre. It is probable that considerable lakes may be discovered near the interior ranges of mountains; at present that of Maravi, S. lat.  $10^{\circ}$ , is the only one of such magnitude as to require notice in a general description; and even of this there is no certain nor precise knowledge.

**RIVERS.]** The chief river hitherto discovered is the Nile, which rises in the Gebel el Kumr, or mountains of the moon, in a district called Donga, N. lat.  $8^{\circ}$ . It is first known by the name of Bahr el Abiad, or the White River; and about lat.  $16^{\circ}$  is joined by the Bahr el Azrek, or the Blue River; the former tinged, the latter clear; circumstances which occur in the Maranon, and the Missouri, in which the chief stream is muddy. The Bahr el Azrek or Blue River, was mistaken for the real Nile by the Portuguese writers, Alvarez, Tellez, &c. probably misled by the boasting of the Abyssinians: though it was well known to the ancients as quite a distinct river, the Astapus, flowing into the Nile from the Coloe Palus, now the lake of Dembea. The comparative course of the Nile may be estimated at about 2000 B. miles, thus nearly rivaling the longest Asiatic rivers; and it is at any rate only supposed to be exceeded by the Ob, Kian Ku, and Hoan Ho; as it is by the Maranon, and probably by the Missouri. The Nile forms some considerable cataracts, the chief being that of Geanadil in Nubia, before it gains the level of Egypt, after passing some rapids to the S. of Syene. Its other features are intimately connected with the account of Egypt. The other chief rivers are the Nigir, and the Gir, the course of each being probably about 1000 B. miles. That of Senegal is also considerable. In the southern parts the Zahir or Barbela of Congo, and the Zambezi of Mocaranga, are the most considerable yet known.

**MOUNTAINS.]** The mountains of Atlas attracted the particular observation of the ancients, who fabled that they supported the firmament; and derived from them the celebrated appellations of the Atlantic Ocean and the Atlantic Islands. When D'Anville supposes that the

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greater Atlas of Ptolemy is Cape Bojador, he evinces that he himself erred by extending the ancient knowledge too far to the south: and the greater Atlas would rather seem to be Cape Geer, where the chain probably terminates, or thence extends in the same direction, as not unusual, till it constitute the isles called the Canaries. In some modern accounts this ridge is considered as dividing the kingdom of Algier from Zeb and Bilidulgerid, that is, the direction is S. W. and N. E. which seems also confirmed by Dr. Shaw, though he acknowledge considerable difficulties\*. So far as the materials will admit, the Atlas may be considered as extending from Cape Geer in a N. E. direction, and giving source to many rivers flowing N. and S. till it expire in the kingdom of Tunis. From the accounts of some French mineralogists, who have visited the western extremity, the structure is granitic and primitive.

Farther to the east are ranges of mountains or rather hills, in what is called the Country of Dates, which cannot be considered as portions of the Atlantic range. Along the western shores of the Arabian gulf extends a celebrated ridge partly of red granite, which supplied the famous obelisks of Egypt; and of which one mountain was styled that of emeralds from the quarries of that gem: in the same vicinity were the quarries of the celebrated green breccia, observable in ancient monuments. The high mountains of Abyssinia seem to branch from the great central chain already mentioned, or rather from its junction with that on the west of the Red Sea; but the natural history remains unknown. The conjectural ridge proceeding south is supposed to terminate about lat.  $25^{\circ}$ , as the high mountains on the north of the European colony of the Cape pass E. and W., and the Orange River rising from their northern base is supposed to follow a N. W. and W. direction. The mountains of the Cape seem chiefly of blue slate, siliceous sandstone, and granular quartz, interspersed with large masses of granite.

DESERTS.] But the most striking feature of Africa consists in the immense deserts which pervade many parts of that continent; and may perhaps be found to comprise one half of its whole extent. Of these the chief is that called *Zaara*, or *the Desert*, by eminence, stretching from the shores of the Atlantic, with few interruptions, to the confines of Egypt, a space of more than forty-five degrees, or about 2500 g. miles, by a breadth of twelve degrees, or 720 g. miles. This ocean of sand defies every exertion of human power or industry; but it is interspersed with various islands of different sizes, of which Fezzan is the chief which has yet been explored.

In the southern parts of Africa, towards the European settlements, there are also deserts of great extent; but it seems probable that the central ridges of mountains, already indicated, preserve vegetation where they extend; and it is understood that the Portuguese have been prevented from passing the Congo to Zanguebar by ranges of mountains full of the most ferocious animals, and impeded by that thick thorny underwood which is peculiar to African forests. Yet there is probably, as in Asia, a wide desert table-land between the E. and W. ranges, pervaded by the *Giagas* or *Jagas*, who seem to be the Tatars of southern Africa; and who are said sometimes to have roamed from Mozambique to the vicinity of the Cape of Good Hope.

In arranging the following brief description of Africa, the first account shall be that of Abyssinia, the chief native power, so far as hitherto dis-

\* Travels, 1738, folio, p. 18., &c.

covered. Thence by Egypt, in a geographical progression, the route shall embrace the Mahometan states in the north, the western coast, and the Cape of Good Hope. The progress shall then be continued along the eastern shores: nor must the noble island of Madagascar be forgotten. The smaller islands, which must be arranged with Africa, are Bourbon, Mauritius, &c.: nor can Kerguelen's Land be properly allotted to any other division of the globe. The geographical voyage then bends to the N. W. by the St. Helena, the islands of Cape Verd, the Canaries, and Madeira. The whole description shall be closed with a summary of the discoveries, and conjectures, concerning the central parts of this great continent,

## ABYSSINIA.

*Extent.—Original Population.—Progressive Geography.—Religion.—Government.—Population.—Army.—Revenues.—Manners and Customs.—Language.—Cities.—Manufactures and Commerce.—Climate and Seasons.—Rivers.—Lakes.—Mountains.—Botany.—Zoology.—Mineralogy.—Natural Curiosities.*

**EXTENT.]** THIS kingdom, which exceeds in antiquity and stability any other of the African states, extends about eleven degrees in length, from north to south, that is, about 660 geographical or 770 B. miles. The medial breadth is about eight degrees of longitude, in lat.  $10^{\circ}$ , or 572 g. miles, about 550 British. On the east the chief boundary is the Red Sea: and it is divided from the kingdom of Adel by an ideal line: on the south, mountains and deserts seem to part it from Gingiro and Alaba, while on the west and north, mountains and forests constitute the barriers towards Kordofan and Sennaar. It is divided into provinces, of which Tigri is remarkable for the transit of commerce to the Arabian gulf; Gojam for the sources of the Astapus or fabled Nile of the Abyssinians; and Dembea for a noted lake, and Gondar the capital of the monarchy.

**ORIGINAL POPULATION.]** It seems sufficiently established, that Abyssinia was peopled, at a very early period, by a colony from the opposite shores of Arabia; and the people still retain Arabian features, though their complexions be darker than those of their progenitors; but they have neither the singular construction of the negro skull, nor other peculiarities of that race\*. In the year 333 the Abyssinians were converted to christianity, their general tenets being those of the Greek church, received from the patriarch of Alexandria; but they still retain the African circumcision, a native and oboriginal rite wholly unconnected with religion. As the Arabs impute every thing marvellous to Solomon, so these their descendants, in frequent habits of intercourse with them, have adopted the same ideas, which are strengthened by religious fable and tradition. Hence the Abyssinian kings claim a descent from that monarch, in the same mode of reasoning as the Arabs deduce the noble genealogy of their steeds from the stalls of Solomon. The queen of Sheba, or Saba, in Arabia Felix, has also been transferred to the other side of the gulf.

\* Volney has with sufficient precipitation pronounced, that the ancient Egyptians were negroes, though he had only to look at their descendants the Copts, at any of their ancient gems, or other representations, or even at the mummies themselves to perceive his error.

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\* Gibbon, v  
† Alvarez, f

Some credulous travellers have fondly adopted these idle tales; though they allow that the Abyssinian annals are dubious, broken and obscure; and the natives had not even the use of letters till they were converted to christianity. From more certain sources it may be traced that the Auxumites or Abyssinians were considerably civilized in the sixth century, and carried on some trade with Ceylon\*. In the same century the Neguz, or king of Abyssinia, conquered the Arabian monarchy of the Homorites in Yemen; and a Roman ambassador appeared in the royal city of Axumé.

PROGRESSIVE GEOGRAPHY.] The progressive geography of this country may be traced with tolerable accuracy, from the time of Ptolemy, who describes its chief features, the two large rivers called Atapus and Aftaboras, now the Bahr el Azrek, and the Tacuzzi or Atbara, and the lake Coloe or Dembea, with the royal city of Axumé, now a village called Axum. The Arabian geographers supply the interval between ancient and modern knowledge.

RELIGION.] The religion, as already mentioned, is the Christian, with some peculiar forms and practices, too minute to be here detailed. The government is absolute and hereditary, but with a kind of election in the royal family; and the king is saluted with prostration. A striking and romantic singularity was that the princes were educated on a lofty and solitary mountain, a practice long since abandoned. Concerning the population of this country there seems no authentic evidence. Alvarez pronounces it one of the most populous regions in the world; but this seems one of the usual Spanish and Portuguese exaggerations. By Bruce's account it is extremely difficult to raise the royal army above thirty thousand; yet in so barbarous a state it might be concluded that every tenth person joins the army. But so thin a population is incredible, and it seems probable that it may amount to two or three millions. The royal revenues consist of the rude products of the various provinces, the use of money being unknown, though gold be found in the sand of the rivers. One of the chief articles is cattle, which are numerous, and sold at low price.

MANNERS AND CUSTOMS.] The natives are of a dark olive complexion; and the dress a light robe, bound with a sash, the head being covered with a kind of turban†. The houses are of a conic form, meanly built of clay, and covered with thatch; and even the churches are of a round form, encircled with a portico. Christianity seems to hold but a slight influence over the manners and morals, and the priests are little respected. Engaged in the constant suppression of insurrections, or in petty warfare with the surrounding states, the government of Abyssinia pays little attention to the progress of industry and civilization. After fifteen centuries of Christianity, this country recalls the image of the barbarous states of Europe in the seventh or eighth centuries. Some travellers assure us that, at an Abyssinian banquet, the flesh is cut from the live oxen. Others however only affirm that the natives are fond of raw flesh, a taste not unknown to the people of Tibet, and other countries. Even religion sometimes bends before the influence of climate, and polygamy is not unknown among these Christians, the kings in particular having frequently many wives and concubines. The only meal is commonly in the evening, and the abstinence of Lent is carefully preserved. The common beverages are mead and a kind of beer‡. The neguz or king

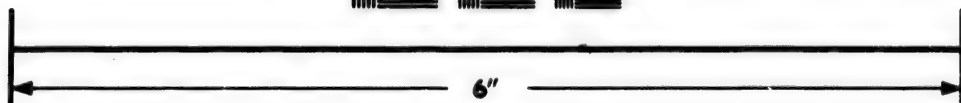
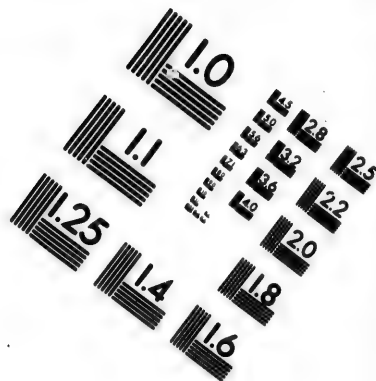
\* Gibbon, vii. 342.

† Alvarez, fol. 200. Lobo, p. 54.

‡ Poncet in Lockman, i. 200, &c.







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is considered as the sole proprietor of the land, while private property is restricted in moveable goods. The language is regarded as an ancient offspring of the Arabic, and is divided into various dialects, among which the chief are the Tigrin or that of the province of Tigri, and the Amharic. The Galanic is also widely diffused, the Galas being a numerous adjacent people, who frequently disturb the public tranquillity. The Abyssinian language is illustrated by the labours of Ludolf, and several missionaries.

**CITIES.]** The chief city in modern times is Gondar, situated upon a hill. According to Bruce it contains ten thousand families, that is about fifty thousand souls: but in the time of Alvarez none of the cities was supposed to exceed fifteen hundred houses. The palace, or rather house of the neguz, is at the west end, flanked with square towers, from the summit of which was a view of the southern country, as far as the lake of Tzana or Dembea. Axum, the ancient capital, is still known by extensive ruins, among which are many obelisks of granite, but without hieroglyphics. The other towns are few and unimportant. On the rock of Geshen, in the province of Amhara, were formerly confined the Abyssinian princes; and Abyssinia in general is remarkable for detached precipitous rocks, appearing at a distance like castles and towns, a feature also usual in New Granada, and other north eastern parts of South America. The rock of Ambazel, in the same province, has also been dedicated to the same political purpose, both being near a small river which flows into the Bahr el Azrek. The manufactures and commerce are of small consequence, the latter being chiefly confined to Masua on the Red Sea. The earthen ware is decent; but though Cosmo de Medici, among other artisans, sent manufacturers of glass to the neguz, the Abyssinians still seem strangers to this, and many other common fabrics.

**CLIMATE AND SEASONS.]** The climate is attempered by the mountainous nature of the country. From April to September there are heavy rains; and in the dry season of the six succeeding months the nights are cold. Alvarez has long ago remarked that the rise of the Nile in Egypt is occasioned by the violent rains, which, during the summer, deluge the southern regions: and he might perhaps have added the melting of the snows in the African alps, which give source to the real Nile, the Bahr el Abiad; for as the Atlas is covered with perpetual snow, which also crowns the Andes under the equator, it is probable that the central ridge of Africa presents the same features, and that an ancient geographer might have been frozen to death in his torrid zone. Abyssinia is one of the most mountainous and precipitous countries in the world; but in a few vales the soil is black and fertile. The chief river is the Bahr el Azrek, or Abyssinian Nile, which has a spiral origin like the Orinoco. The sources were, in the seventeenth century, accurately described by Payz, a Portuguese missionary, whose account was published by Kircher and Isaac Vossius, and has in our times been very minutely copied by Bruce. The chief spring of the Bahr el Azrek is in a small hillock situated in a marsh. The sources of the real Nile or Bahr el Abiad, in the alps of Kumri, remain to be explored. Receiving no auxiliary streams on its long progress through Egypt, the Nile is singularly narrow, and shallow, when compared with other rivers of far shorter course. The Bahr el Azrek is styled by the Abyssinians Abawi, a name of uncertain origin; and is followed by the Tacuz or Tacuzzi; the Astaboras of the ancients, as the Abawi is the Astapus\*. Another considerable

\* The Abawi presents a remarkable cataract at a place called Alata, not far from its egress out of the lake of Tzana. The grand cataract of the Nile is in Nubia, lat. 22°.

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stream is the Maleg, which joins the Abawi after a parallel course on the west. Several tributary streams join the Abawi and the Tacuz. Two other rivers, the Hanazo and the Hawash, flow in an opposite direction, towards the entrance of the Red Sea, but the first is said to be lost in the sands of Adel.

**LAKES.]** The chief lake is that of Tzana, also called Dembea, from a circumjacent province. This lake is pervaded by the Nile in its circular progress, as the lake of Parima by the Orinoco, being about 60 B. miles in length by half that breadth, but the extent differs greatly in the dry and wet seasons. Among other islands there is one in the midst called Tzana, which is said to have given name to the lake. In the southern extremity of the kingdom is the lake of Zawaja, a chief source of the Hawash; and among many smaller expanses of water may be named the lake of Haik, near the royal rocks of Geshen and Ambazel.

**MOUNTAINS.]** The mountains of Abyssinia seem irregularly grouped, being at the junction of that chain which borders the western shores of the Red Sea, and of that far superior ridge which pervades central Africa from east to west in a N. W. and S. E. direction, giving source to the Nigir and the river of Senegal at one extremity, and at the other to the Gir and Nile. Hence on the east side of Abyssinia the ridges probably pass N. and S. and in the southern part W. and E. As in other high ranges of mountains there are three ranks, the chief elevations being in the middle. On the east of the kingdom are the heights of Taranta; and towards the centre the Lamalmon; while in the south is the Ganzu. Tellez asserts that the loftiest mountains are those of Amhara and Samena, that is, towards the centre of the kingdom, whence rivers flow in all directions. The precipices are tremendous and truly alpine. Abyssinia presents a rich field of natural history.

**BOTANY.]** The few scanty fragments of Abyssinian botany contained in the works of Ludolph, Lobo, and Bruce, are unfortunately our only materials for the flora of eastern Africa; nor can these be wholly depended upon, as two of the above authors wrote before the existence of scientific botany, and the third, besides his ignorance on this subject, seems too much disposed to aggrandise his brief catalogue by representing common plants as rare and even new species.

The sycamore fig, the erythrina corallodendron, the tamarind, the date, the coffee, a large tree used in boat-building, called by Bruce rack, and two species of mimosa or acacia, though probably not the principal trees, are almost the only ones that have hitherto been described. The arboresecent euphorbiae are found on some of the dry mountains. A shrub, called in the language of the country, wooginoos, (the Brucea antidysenterica of Bruce and Gmelin,) is celebrated by the British traveller for its medicinal virtues in the disease of which it bears the name, and the cusso or banksia of Bruce, which seems to be a species of rhus, is mentioned by the same author as a powerful anthelmintic. A large esculent herbaceous plant analogous to the banana, called by Bruce ensete, is largely cultivated by the natives as a substitute for bread. The papyrus is found here in shallow plasies as in Egypt; and the trees that yield the balsam of Gilead, and the myrrh, are represented by the above mentioned traveller as natives of Abyssinia.

**ZOOLOGY.]** The horses are small, but spirited, as usual in alpine countries. Cattle and buffaloes are numerous. Among wild animals

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are the elephant, rhinoceros, lion, panther; and it is said the giraff or camelopardalis. The hyena is also frequent, and singularly bold and ferocious, so as even to haunt the streets of the capital in the night. The extirpation of these animals may be impossible in so mountainous a country, but the circumstance indicates a miserable defect of policy. There are also wild boars, gazelles or antelopes, and numerous tribes of monkeys. The hippopotamus and crocodile swarm in the lakes and rivers. Equally numerous are the kinds of birds, among which is the golden eagle of great size, but water fowl are rare. The most remarkable insect is a large fly, from whose sting even the lion flies with trepidation. The mineralogy of this alpine country must be interesting, but it is neglected by the ignorant natives. Gold is found in the sand of the rivers. There are some small mines in the provinces of Narea and Damut. Fossil salt is found on the confines of Tigri. It is said that there are no gems, and that even the royal diadem is decorated with imitations; some assert that the Abyssinians neglect to search for gold or gems, lest the Turks should be incited by the reported wealth to invade the country. The chief natural curiosities are the alpine scenes, the precipitous detached rocks, the cataract of Alata, and the river Mareb in the N. E. which is said completely to sink under ground.

## EGYPT.

*Extent.—Original Population.—Progressive Geography.—Religion.—Government.—Population.—Revenues.—Manners and Customs.—Language.—Cities.—Climate.—Face of the Country.—Rivers.—Lakes.—Mountains.—Botany.—Zoology.—Mineralogy.*

EXTENT, &c.] **T**HIS country, celebrated from the earliest ages of antiquity, and recently a distinguished scene of British valour, both by sea and land, is about 500 miles in length from north to south; and, including the greater and lesser Oases, about half that breadth. But this appearance is merely nominal; Egypt being in fact a narrow vale on both sides of the river Nile; bounded by parallel ridges of mountains or hills. It seems to have been originally peopled from the northern parts of Arabia, or from Syria; the Egyptians and Abyssinians having been in all ages wholly distinct from the native nations of Africa. A late intelligent traveller remarks\* that the Copts, or original inhabitants, have no resemblance of the negro features or form. The eyes are dark, and the hair often curled, but not in a greater degree than is occasionally seen among Europeans. "The nose is often aquiline, and though the lips be sometimes thick, by no means generally so; and on the whole a strong resemblance may be traced between the form of visage in the modern Copts, and that presented in the ancient mummies, paintings, and statues. Their complexion, like that of the Arabs, is of a dusky brown; and is represented of the same colour in the paintings in the tombs of Thebes." The progressive geography and history of Egypt are familiar to most readers; and the chief antiquities have been so repeatedly described, that the repetition would be alike tedious and unnecessary. The chief scenes of

\* Browne, p. 71.

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antiquity are the pyramids; and the tombs near Thebes, with many ruins of temples, and other remains of ancient cities. At Achmunein there are curious ancient paintings, the colours being remarkably fresh.

[RELIGION, &c.] The ruling religion in Egypt is the Mahometan; but there are many Christian Copts who have their priests and monasteries. The government is at present unsettled, but will probably return to the aristocracy of the Beys and Mamelukes. Mr. Browne estimates the population of Egypt at two millions and a half: of whom the city of Cairo may contain 300,000 \*. The revenue under the Beys might perhaps be about one million sterling.

[MANNERS AND CUSTOMS, &c.] A general similarity pervades the manners of Mahometan countries, as the Koran regulates most springs of human life: the fanaticism against the Franks or Europeans was extreme, but may perhaps be somewhat moderated by the recent terror of their arms. The Copts are an ingenious people, and have great skill in business; whence they are generally employed by the Mahometans as writers and accountants. The heat of the climate enforces an abstemious diet: and the houses, even at Cairo, are mostly miserably dirty hovels. The common people are disgustingly filthy in their persons. But in the classes somewhat more at ease the Coptic women have interesting features, large black eyes; and though of short stature, have often elegant shapes. the Coptic language is now only known in manuscripts, the Arabic being universally used.

[CITIES.] The chief city is Cairo, or in the oriental enunciation Kahirah, which may indeed be regarded as the metropolis of Africa, as no city throughout this wide continent can perhaps boast a sixth part of its population. This celebrated metropolis is on the east side of the Nile, connected by two suburbs with the river. On the east is a ridge of that extensive chain, which accompanies the Nile as far as Upper Egypt. On the north a plain extends to the delta, which it resembles in soil and productions. The population, as already mentioned, is estimated at 300,000; but the streets are narrow in order to guard against the sun; and there is an interior wide canal styled the Chalige, the stench of which is occasionally intolerable, though the chief street passes along its shore. The principal mosque is ornamented with pillars of marble, and Persian carpets, and has a library of manuscripts; great property being attached to the foundation. There are many reservoirs for water, public baths, and bazars or markets, where each trade has its allotted quarter. The houses are mostly of sand stone from the mountain behind; and are sometimes three stories high, with flat roofs. The harems, or apartments of the women, are expensively furnished; but those of the men neat and plain. Before the discovery of the Cape of Good Hope the commerce was immense; and Cairo is still the centre of that of eastern Africa, as Tripoli is of the western. From Yemen are imported coffee, drugs, perfumes, and some gems; muslin, cotton, spices, from Hindostan; and the caravans from Sennaar and Fur bring slaves, gold dust, ivory, horns of the rhinoceros, ostrich feathers, gums, and drugs. From Tunis and Tripoli are brought oil, red caps, and fine flannel: from Syria, cotton, silk, soap, tobacco: from Constantinople white slaves, Circassians, or Georgians, the males being the noted Mamelukes; with all kinds of brass, copper, and iron manufactures. Numerous negro slaves pass from Cairo to the more northern Mahometan countries. Among the manufactures are sugar, sal ammoniac, glass lamps, saltpetre, gunpowder, red and yellow leather, and particularly linen made

\* Browne, p. 71.

of the fine Egyptian flax. To the N. E. of the city are gardens and villas of the great; but the mountain is of white calcareous sand-stone, and destitute of verdure. On Friday a mosque without the walls is frequented by the ladies as a pilgrimage of pleasure. There are light boats, like Venetian gondolas, used on the increase of the Nile; and among the amusements are dancing girls, and rope dancers; the chief games being chess, and Polish draughts. On solemn occasions fireworks are exhibited.

Next in consequence are Alexandria, Rosetta, or Raschid, and Damietta. Upper Egypt no longer boasts of a Thebes; and even Girgi, formerly the capital of this part, begins to decline.

COMMERCE.] Though Egypt has ceased to be the centre of oriental trade, and the granary of Rome, yet the delta still exports great quantities of rice; and Upper Egypt supplies some cargoes of wheat. Flax is sent to Syria, and coffee and black slaves to Constantinople. Other articles of commerce are already enumerated in the description of Cairo. Alexandria was the chief seat of European trade, which thence passed by Raschid to Cairo. Particular exports were carthamus and fenna; and about eight hundred bales of European broad cloth were imported. The trade of Damietta is of small consequence.

CLIMATE.] The climate of Egypt is well known to be peculiar, rain being a most uncommon phenomenon. The heat is also extreme, particularly from March to November; while the cool season, or a kind of spring, extends through the other months\*. The chief malady seems to be a weakness of the eyes, and blindness is very common in Egypt. Some suppose that this proceeds from the extreme heat and want of rain, so that the air is continually impregnated with very fine dust; and the soil abounding in nitre, the effect is the more acrimonious. The habit of sleeping in the open air, upon the terraces, exposed to the nocturnal dews, may however be regarded as the chief cause; and when the disease appears it is increased by the splendour of the sun, reflected from the white houses, and the pale sand of the deserts. The plague has been erroneously supposed to originate from Ethiopia, where it is quite unknown; and in Egypt it is supposed to be always imported from Constantinople. The extreme heat stops it here, as effectually as the cold in other countries.

FACE OF THE COUNTRY.] The general face of the country varies in particular regions, but is otherwise rather flat and uniform. Alexandria is insulated in the desert, while the delta presents a luxuriant vegetation and inundated meadows. The constant repetition of the palm and the date tree becomes tedious; but around Raschid the orange groves present an agreeable variety. Of far the greater part of Egypt the aspect is that of a narrow fertile vale, pervaded by the Nile, and bounded on either side by barren rocks and mountains. The towns and cultivation are chiefly on the eastern bank; behind which are vast ranges of mountains extending to the Arabian gulf, abounding with marble and porphyry, but almost destitute of water, and only inhabited by Bedouins. Across these mountains is a solitary road to Cosseir on the Red Sea. On the west the hills lead to a vast sandy desert, where are the two Oases, a name applied to islands situated in sand. The appearance of Egypt, under the inundation of the Nile, has been described rather poetically than historically, the picture only applying to parts of the delta; while in other districts there are some canals, but the lands

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are generally watered by machines. According to a late traveller, the soil in general is so rich as to require no manure. It is a pure black mould, free from stones, and of a very tenacious and unctuous nature. When left uncultivated it is liable to be cracked to the depth of several feet by the intensely hot rays of the sun\*. From Cairo to Assuan, or Syrene, a distance of about 360 miles, the banks, except where rocks appear, present no native plant, but rise as it were in steps, as the Nile has in different ages worn its way, and are sown with various esculent vegetables. The agriculture is of the simplest kind, the chief article being wheat, with barley for the horses; oats being scarcely known in Asia or Africa. In the delta rice is the chief grain, with maize and lentils. The lands chiefly belong to the government or to the monks. The tenants are not restricted to the soil; but are at liberty to move on the expiration of a kind of lease.

**RIVERS.]** The only river of Egypt is the Nile, already described in the general view of Africa. Its greatest breadth even here, is about one-third of a mile; and the depth about twelve feet; for, receiving no streams in Egypt or the Nubian deserts, it bears little of the usual character of rivers that pervade so extensive a course. The water is muddy; when it overflows, of a dirty red; and cloudy even in April and May. The river begins to rise about the 19th of June, the Abyssinian rains having begun in April; and it ceases in October. It abounds with fish, particularly kinds of salmon and eels. The crocodile is at present restricted to the south of Assiut.

**LAKES.]** There are several extensive lakes in the northern parts of Egypt, the largest being that of Menzala which communicates with the sea by one or two outlets. Next is that of Berelos, followed by that of Elko. These stagnant waters at the mouths of the Nile seem unknown to Ptolemy, and to have been produced, or enlarged, by the sandy depositions of the river having raised the bed of the sea, so that the delta is diminishing, instead of being increased, as some recent theories affirm. The lake of Mareotis, on the south of Alexandria, has however become almost dry. The lake called Kerun, in a curious district of Egypt forming an excrescence to the west, seems to be about thirty miles in length and six miles in breadth; and has no appearance of being artificial, as some suppose, the Moeris of antiquity being probably the Bathen, a long deep canal to the S.E. The Natron lakes must not be forgotten, being so called from their production of natron or mineral alkali. They are situated in the desert near a remarkable channel, supposed to have been anciently a branch of the Nile, and still called the Bahr Belame, or river without waters.

**MOUNTAINS.]** The mountains have been already described as ranging along the banks of the Nile, but chiefly between that river and the Red Sea. In Lower Egypt, and on the western side of the Nile, they seem to be chiefly of calcareous sand-stone, or what is called free-stone. The pyramids are generally constructed of a soft calcareous free-stone, full of shells, like that used at Bath; and the rock on which they stand is of the same substance†. In Upper Egypt the mountains towards the Red Sea are porphyreous and granitic. On passing towards Cossair the rugged and lofty rocks have a grand and terrific appearance, consisting chiefly of red granite, and porphyry red and green, the latter being the ophite or snake-stone of the ancients.

\* Brown, p. 64.

† b. 178.

Here is also found the celebrated green siliceous breccia above mentioned; it arises in the neighbourhood of serpentine, under a blue schistus. There are also red and other marbles. Near Syene, Pococke observed the quarries of red granite, whence the ancient obelisks were dug; their great length being hollowed out from the rock, in the form of steps, for the convenience of working, and easy carriage to the Nile.

**BOTANY.]** The rich valley of the Nile has been for so many ages under the dominion of man, and can boast the proud succession of so many hundred harvests, that it is by no means easy to distinguish its native vegetables from those which have been introduced at various periods for profit or pleasure, and have gradually naturalized themselves in the soil of Egypt. Wherever the annual inundations extend, a number of seeds, brought down by the torrent from Ethiopia and Abyssinia, must be deposited together with the fertilizing mud, which, vegetating regularly every year, are probably mistaken for truly indigenous plants. We shall therefore mention such of the Egyptian vegetables as are of most importance, either by their present use or ancient fame, without being very solicitous to examine whether they are real natives or naturalized strangers.

The lotus and papyrus have always been the appropriate decorations of the god of the Nile: the former of these is a species of water lily, which at the retreat of the inundation covers all the canals and shallow pools with its broad round leaves, among which are its cup-shaped blossoms of pure white, or cerulean blue, reposing with inimitable grace on the surface of the water. The papyrus, sacred to literature, after having long vanished from the borders of the Nile, has at length been again recognised on its banks, and in the shallow plashe of the delta. The arum colocasia of ancient fame is still cultivated in Egypt for its large esculent roots. The Egyptian sycamore fig, probably introduced from the opposite shore of Arabia, is of peculiar value from its fruit, its depth of shade, and the vigour with which it grows, even on the sandy frontiers of the desert. The date palm, the pistachia, the oriental plane, and the bead tree, adorn the shore, and are cultivated in the vicinity of most of the towns. The cypress overshadows the burial grounds, and the caper bush roots itself in the ruins of Egyptian, Greek, and Roman civilization. The fenna, the mimosa nilotica, and the henné, are also characteristic of Egypt; from the latter of these the women prepare that yellow dye with which they tinge the nails of their fingers. All the most exquisite of the European fruits, such as the almond, the orange, pomegranate, fig, peach, and apricot, are cultivated here with great assiduity and success; the various kinds of melons and gourds grow to full perfection, and compose no unimportant portion of the food of the inhabitants; and mingled with these productions of the temperate regions are found the plantain, the sugar cane, the cotton, and a few others, that have formerly been imported hither from the tropical climates.

**ZOOLOGY.]** The animals of Egypt have been repeatedly described. A French naturalist seems recently to have demonstrated from the size of the bones, and other circumstances, that the noted ibis of the ancients was not a kind of stork, as commonly conceived, but a curlew. The mineralogy of Egypt is not opulent, nor does it seem ever to have produced any of the metals. A mountain towards the Red Sea is styled that of emeralds; and even now the best emeralds are by the Persians called those of Said or Upper Egypt: but the mines are no longer worked,

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worked, and even the spot seems unknown. Besides the natron lakes, there are some mineral springs, and one of salt water near Cairo, which is supposed to have medical virtues. The whole country may be regarded as one natural curiosity.

BETWEEN Egypt and Abyssinia is an extensive tract, about 600 miles in length, and 500 in breadth, by the ancients styled ETHIOPIA, but more precisely by the Arabian geographers called NUBIA. The isle of MEROS was formed by the junction of the Astaboras with the Nile; and it is not improbable that a southern channel, described by Ptolemy, may since have been dried up by the encroaching desert. The greatest part of Nubia is occupied by wild deserts on the east and west: but on the Nile are two states of some little consequence, Dongola on the north, and Senaar on the south. Senaar was in a state of servile war, the slaves having usurped the government, when Mr. Browne visited Darfur. Bruce describes his interview with the king, or rather chief, and his distinguished harem. In August and September the country around the city presents a pleasant verdure: but the people are deceitful and ferocious. The general dress is a long blue shirt; and the food mostly millet, though there be no want of cattle. Dongola does not merit a description; and the whole of Nubia is a miserable country, inhabited by a miserable people \*.

## MAHOMETAN STATES IN THE NORTH.

TRIPOLI.—TUNIS.—ALGIER.—MOROCCO.

THESE are Tripoli, Tunis, Algier, and Morocco. Of these Tripoli is most extensive and the least known. The territories reach from the gulf of Cabes, the lesser Syrtis of antiquity, to the confines of Egypt, being chiefly the Africa Proper, and Lybia of the ancients; but a great part is desert. Tripoli does not appear to be ancient, being perhaps the port of Pisidon of Ptolemy. The metropolis of Arabian Africa was Cairoan, about fifty miles to the S. of Tunis, where resided the governors appointed by the califs of Damascus; and about the year 800 they assumed royal authority, and the dynasty of the Fatimites passed from Africa to Egypt. The Zeirites afterwards reigned at Cairoan. Tripoli was besieged by the Egyptians, A.D. 877, and A.D. 1050. In 1146 it was seized by the Normans from Sicily, who held this coast till 1159. The power of the Turks is recent, only dating from 1514, when Barbarossa seized Algier; but it has continued more peculiarly at Tripoli †, where the Bey was considered as immediately subject to the Porte, a Turkish pasha superintending his conduct; and the combined taxations have effectually ruined the coun-

\* See the Travels of Poncet, a French physician, 1698, in Lockman's Travels of the Jesuits, l. 192. Near Senaar were forests of acacia, full of paroquets.

† The emperor Charles V. took Tripoli, and resigned it to the knights of Malta, who soon lost this possession, but their proximity has stifled the piracy of the Tripolitans. In 1686 this city was humbled by the bombardment of a French fleet, and sent an embassy of submission to Louis XIV.



try. Famine is also no unusual circumstance; and the depredations of the Arabs form an additional calamity. The town of Tripoli is in a low situation, but to the S. are plantations of date trees and verdant hills, which relieve the tameness of the scene. It is in a state of rapid decay, scarcely four miles in circumference, and thinly peopled; the ancient castle, though still the residence of the reigning family, being in a ruinous condition. At present the Bey seems to be honoured or disgraced with the title and functions of pasha; while the prince's eldest son has the title of Bey. Even the tributary Arabs are often in a state of insurrection; and the month of December, when the grass begins to present sufficient forage, is a common season of warfare. There are olive and date trees, white thorn, and Spanish broom; but the fields of grain are few and scanty. Towards Mesurarta the vegetation is more luxuriant; but of the ancient Cyrene, an interesting spot, there is no recent account.

Next on the west is Tunis, the central region of northern Africa, the western part of the proper Africa of antiquity, and formerly the chief seat of Carthaginian power. In the middle ages Tripoli was subject to Tunis, which was seized by Barbarossa in 1533. In the summer the Bey of Tunis resides in the northern part, and in winter retires to the south, where there is a lake of considerable extent, the Palus Tritonis of antiquity. The chief river is the Mejerda, the Bagrada, of classical repute. The chain of Atlas seems here to terminate, in Cape Bon, being called the mountains of Megala, Uzelett, &c. Among the mineral productions are alabaster, crystal, boles, iron, lead. The cattle are small and slender, and the horses have degenerated. The sheep of Zaara are as tall as fallow deer. There are lions, panthers, hyenas, chakals, and other ferocious animals. The manufactures are velvets, silks, linen, and red caps worn by the common people. In general, the Tunisiens are renowned as the most polite and civilized among the Mahometans of Africa, a character for which they are probably indebted to the situation of their country, for many ages the seat of the chief African powers. The ruins of Carthage, not far to the N.E. of Tunis, have been accurately illustrated by Dr. Shaw\*. The town of Tunis is about three miles in circumference, containing about ten thousand houses, or perhaps 50,000 souls. The chief exports seem to be woollen stuffs, red caps, gold dust, lead, oil, Morocco leather: and the commerce with France was considerable.

Algier may be regarded as the last Mahometan state on the Mediterranean, for Morocco is chiefly extended along the Atlantic. In the thirteenth century Africa was first divided into those petty royalties, which still subsist with few variations. In 1514 Barbarossa seized Algier, which afterwards became a noted seat of pirates; and one of the Deys candidly declared that the country was a nest of robbers, and he was their chief. This city is supposed by Shaw to be the ancient Icosium, and is not above a mile and a half in circuit, while the inhabitants are exaggerated to more than a hundred thousand†: but probably half that number would be nearer the truth. It is ludicrous to behold this power exacting tribute from the maritime states of Christendom, while two ships of war, maintained at the general expence, might block up the port, and extinguish the claims and the piracy. The chief river is

\* This city was founded about 1250 or 1300 years before the birth of Christ, as appears from Herodotus and the Parian Chronicle.

† Shaw, p. 68.

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the Shellif, rising from the northern side of the Atlas, as the Wal Jedi from the southern, and afterwards bending to the west, being the Chinnala of antiquity, while the latter is the Zabus. The kingdom of Algier chiefly comprises the Numidia and part of the Mauritania of the ancients, being bounded on the S. by Getulia and the chains of the Atlas, called Lowat and Ammer; which are, however, by Shaw's account of small elevation, and the grand ridges of the Atlas are towards the west, in the kingdom of Morocco\*. The mountain of Jurjura is the highest in Barbary, being about eight leagues in length, in a N.E. and S.W. direction, full of rocks and precipices, but only covered with snow during the winter. This mountain is about 60 B. miles to the S.E. of Algier, and perhaps forms a part of the real Atlantic chain. The productions are in general the same with those of Tunis. There are many salt rivers and springs, and there is a mountain of salt near the lake, called Marks†: there are likewise several mineral springs; and earthquakes are not uncommon.

Of the empire, or rather kingdom of Morocco, an interesting account has lately been published by an English traveller, who from his medical character had access even to the harems of the king, and one of the princes. This nominal empire consists indeed of several small kingdoms, as the old English monarchy was composed of the seven kingdoms of the heptarchy; but the style of emperor seems to have arisen in the fourteenth century, when the sultan of Morocco was for a short time sovereign of all the northern states of Africa. The proper style is that of sharif, or sheref, derived from a supposed descendant of Mahomet, who seized the sceptre about the year 1500. The kingdom of Fez has been united to Morocco, since it first became an independent sovereignty in the thirteenth century; while that of Tremesin was joined to the deydom of Algier. The sovereigns of Morocco being of the house of Merini, they were styled Al Merinis, and corruptly by the Spanish, and other authors, kings of Balmerin, being latterly the most powerful of the African princes. In the hands of an industrious people the kingdom of Morocco, or ancient Mauritania, might still be of considerable importance: but, from ignorance and want of policy, the western harbours are, by Mr. Lempriere's report, blocked up with sand; so that Morocco may be effaced from the list of maritime powers or pirates. There are heaths of great extent; and the ridge of Atlas here displays its lofty summits and most extensive wildness; but many districts are fertile, particularly that of Tafilet on the S. E. side of the Atlantic ridge. In the summer months the heat is tempered by breezes from the Atlas, always clothed with snow. The Moors of the towns are somewhat civilized, particularly the mercantile class, and the wandering Arabs hospitable; but the Brebes or Brebers, who gave name to Barbary, are a fierce and obstinate race of the ancient natives; and, secure in the mountainous recesses, defy the government, being chiefly ruled by elective sheiks. The universal food is *co/co/su*, consisting of bits of paste about the size of rice crumbled into an earthen colander, and cooked by the steam of boiled meat and vegetables, which are all served up together in an earthen dish, with butter and spices. This stew, in which nothing is lost, even the steam being received by the

\* Between Cape Spertel and Arzila the inland mountains are observed from the sea, covered with snow even in May. Sell. Dir. p. 1.

† What the Moors call *Shott* or *Shatt* is a sandy plain, but sometimes overflowed, and which receives five small rivers. Shaw, 114.

paste, is the favourite meal of the peasant and the monarch. The domestic animals are much the same as those of Europe, except the camel; and dromedaries of great swiftness are procured from Guinea. The oxen and sheep are small, but well flavoured: fowls and pigeons plentiful, but ducks rare, and geese and turkeys unknown. There is plenty of game; and storks are common, being free from molestation. In the ridge of Atlas there are mines of iron, neglected by the unskilful Moors; but copper is wrought near Tarudant. The Portuguese formerly held several places on the coast, as Santa Cruz in the S. and Tangier in the N.; while the Spaniards still retain Ceuta. The chief Mahometan port is Tetuan, which is rather an open road; but the town is in a picturesque situation, and the people particularly friendly to the English. The city of Morocco is situated in a fertile plain, variegated with clumps of palm trees and shrubs, and watered by several lucid streams from the Atlas: the extent is considerable, surrounded by very strong walls of *tabby*, a mixture of stone and mortar which becomes as hard as rock. The chief buildings are the royal palace and the mosks; and there is a considerable *jewry* or quarter inhabited by Jews. The palace consists of detached pavilions, as common in the east; and even the mosks are squares with porticoes, like that of Mecca, the climate not requiring a covered edifice like our churches, or the Turkish mosks, often originally christian edifices. The dress of the Moors is rather singular; and the ladies not only paint their cheeks and chins with deep red, but make a long black mark on their forehead, another on the tip of the nose, and several on the cheeks. The women of the haram are ignorant and childish, their employments being chatting in circles and eating *coscufu*.

**BOTANY.]** The territory now occupied by the Barbary or piratical states, extending from the frontiers of Egypt to the Atlantic ocean in one direction, and from the Mediterranean Sea to the Great Desert in the other, includes a tract of country proverbial in better times for its never failing fertility. The soil, partaking of the general character of Africa, is light and sandy with intervening rocks, though the vales of Mount Atlas, and of the small streams that descend into the Mediterranean, are overspread with a deep rich well watered mould. Hence it is that the most characteristic of the indigenous vegetables are such as flourish on the open shore, or root themselves in the driving sand; while the plants of rarest occurrence are the natives of marshes and forests. Many of the saline succulent species, a few of the bulbous-rooted, together with various kinds of tough long-rooted grasses, intermixed here and there with the *heliotropium*, *soldanella* and *eryngo*, overspread the flat arid shore, and prevent it from drifting with every wind. The dry and rocky intervals between the valleys of the interior bear a near resemblance to the heaths of Spain: like these they abound in scattered groves of cork trees and ever-green oaks, beneath whose shade the sage, the lavender, and other aromatic plants are found abundantly and in high perfection. The arborecent broom, the various species of *cistus*, the *mignonette*, the *sumach*, the tree heath, together with the *aloe*, *agave*, and several kinds of *euphorbia* and *cactus*, all of them patient of heat and drought, adorn the interrupted rocks, and afford both food and shelter to the goats by which they are inhabited. The valleys and glens are profuse of beauty and fragrance; besides the bay, the myrtle, the pomegranate, the olive, the *jasmine*, and *oleander*, which are common both to Africa and the south of Europe, we find here, in a truly wild state, the Aleppo pine, the red juniper, the date-palm, the *pistia*,  
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To the south of these chief Mahometan states are several countries little explored, as Drah, Sijelmiffa, or Segulmessa, and the Land of Dates\*, so called because that fruit constitutes the chief food of the inhabitants. Fezzan is a large and remarkable oasis in the north of the great desert. The more central parts will be briefly illustrated towards the conclusion of this short description of Africa. Suffice it here to observe that, with a few exceptions of the more barbarous districts, the Mahometan faith extends to the great central ridge of mountains, or within ten degrees of the equator: and wretched must those regions have been into which Mahometans could introduce industry and civilization; while in Europe and Asia they are the fathers of destruction and barbarism.

## THE WESTERN COAST.

JALOFFS, FOULAHs, and other Tribes—BENIN.—LOANGO.—CONGO.

ON this side of Africa, so far as hitherto explored, are innumerable tribes, as little meriting particular description as those of America. The Jaloffs or Yoloffs and Foulahs are the chief races on the rivers Senegal and Gambia; while Guinea, divided into the Grain, or more properly Windward coast, Ivory coast, and Gold coast, chiefly supplies slaves, a trade which commenced in 1517, by a patent from the emperor Charles V. obtained at the instance of Las Casas, the noted protector of the American savages. The settlements in Guinea are chiefly Portuguese; and the slaves from the river Senegal are called Mandingos, from an inland country of that name; while those from the gold coast are called Koromantees; and those towards Benin Eboes†. For these slaves British goods have been exported to the annual value of 800,000*l*.

The countries of Benin and Calabar, which seem to afford the easiest access towards the interior are followed by other savage tribes. The kingdoms of Congo and Angola are celebrated in Portuguese narrations, and present the most interesting objects in this wide extent of territory. To the south of these there is deep obscurity till we arrive at the nations or tribes called Great and Little Nemakas, and Kaffers or Kouffis, on the north of the European colony of the Cape of Good Hope.

The repeated description of the manners of negro tribes would little interest the reader, and only a few peculiarities shall be remarked. The Yaloffs are an active and warlike race, and esteemed the most handsome of the negroes. The Mandingos are widely diffused, and of a mild and sociable disposition. They wear cotton frocks of their own manufacture; but their hats and furniture are of the simplest kind. The Foulahs near the river Gambia, are chiefly of a tawney complexion, with silky hair and

\* According to some, Biledulgerid implies the Land of Dates; but Dr. Shaw, p. 5, says it should be *Blaid al Jerid* or Dry Country. In Arabic it would seem the Land of Dates is *Gualen Tamar*.

† Edwards's *West Indies*, ii. 50. The forts and factories belonging to Europeans are about forty; 15 Dutch, 14 English, 4 Portuguese, 4 Danish, 8 French. *Ib.* 53.

pleasing features, being probably tribes that fled from Mauritania. The Foulahs of Guinea are of a very different description, and the identity of name ought to have been avoided. Teembo, the capital of the latter, contains about 7000 inhabitants; and there are iron mines worked by women, besides some manufactures in silver, wood, and leather. These Foulahs, it is said, can bring into the field not less than 16,000 cavalry; and, being surrounded by twenty-four pagan nations or tribes, these Mahometans never hesitate to make war for the sake of procuring slaves. To the west of these Foulahs is the English settlement of Sierra Leone, formed in 1787, for the benevolent purpose of promoting African civilization.

At the other extremity of this coast are the Nemakas, whose manners have been illustrated by that romantic enthusiast Le Vaillant, who also pretends to have observed other tribes called Korakas and Houzouanas; the latter being, by his account, an active and hardy race, rather of a leaden colour, but with noses still flatter than those of the Hottentots\*.

The kingdom of Benin is asserted to be very considerable; and it is said that the monarch could raise an army of one hundred thousand. The capital, of the same name, is said to contain thirty streets of low houses, while the inhabitants are remarkable for cleanliness and propriety of behaviour. They are said to acknowledge a supreme benevolent deity, whose worship they deem superfluous, as he can neither be influenced, enraged, or appeased; but they offer sacrifices to inferior and malignant spirits, in order to soothe their enmity.

Loango is a country of no small extent, on the north of Congo, and of which an account has been published by Pigafetta and others. The people are industrious, as there are weavers, smiths, potters, carpenters, and makers of canoes, caps, and beads. The exports are elephants' teeth, copper, tin, lead, iron. The common people are held in a kind of slavery, but many migrate. The superstition of magic prevails, as usual among the African tribes. The capital Bouali is by the French called Loango. The dry season begins with April and ends with October; but the greatest heat is in the rainy season, or the other six months. Even the mountains are of mere clay, without rock or stone; and the rivers do not increase in the rainy season. The soil seems to be wholly a compact clay, which sometimes splits into vast abysses. Vegetation however flourishes; and among the trees are the cocoa, banana, orange, lemon, pimento, with the cotton shrub, and sugar cane. The palm wine, a favourite African beverage, is procured by piercing the tree where the fruit begins to swell from the trunk.

The latest account of Congo seems to be that by John Anthony Cavazzi de Monte Cuculo, a capuchin missionary, which appears however to be somewhat tainted with false miracles and fanaticism†. In October begins what may be called the spring, but heavy rains continue for two or three months. About the end of January is one harvest; and in March more gentle rains commence and continue till May, when there is a second dry season or harvest; their nominal winter beginning in July. The Zahir or Zair is a grand and rapid river, and the mouth said to be five leagues in width, freshening the sea to a great distance. It has vast cataracts, near one of which is a mine of bright yellow copper. The houses are round thatched hovels, even in the

\* Second Journey, lil. 116: but see Dapper's *Africa* for the Hottentots,

† It was printed at Bologna, 1687, folio.

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chief city, called St. Salvador by the Portuguese. The Congoese have the negro colour without the features, which rather resemble the European; hair sometimes of a deep reddish brown, and eyes of a dark green or sea colour. Once a year the graves are opened, and the bodies or bones decorated. This custom seems peculiar to Africa and America. Congo produces millet, maize, and excellent fruits; with the sugar cane, and varieties of the palm. There are said to be mines of iron and copper; and among the animals is named the *cojas morron*, which seems the *orang outang* of Borneo. The accounts of the Portuguese writers, the chief authorities concerning Congo and the neighbouring states, often border so much on the fabulous, that amidst doubtful circumstances brevity becomes the safest choice.

[BOTANY OF THE WESTERN COAST.] This coast appears in general to be sufficiently well watered, and accordingly bears a striking resemblance in its vegetable productions to the opposite shore of the American continent. The usual plants of the tropical climates are found here in perfection and in great abundance: but we yet want a scientific catalogue of indigenous vegetables to ascertain what are the peculiar and characteristic features of its flora. The low shores of the rivers, as far as the tide reaches, are bordered with mangroves and bamboos; the luxuriant Guinea grass, the sugar cane, ginger, turmeric, and cocoa-nut, with various other species of palms, root themselves in the moist deep soils. Numerous kinds of dyeing woods, and of timber fit for ornamental or useful purposes, abound in the forests. Indigo and cotton of a superior quality are met with both wild and cultivated. The sweet cassava, differing from the American manioc in being perfectly innoxious and wholesome even without cooking, the Guinea pepper or capsicum, the yam, sweet potatoe, rice, maize, gourds and melons of all kinds, are the principal food of the inhabitants, and probably are indigenous. The copal tree, the sandal wood, ebony, and mimosa Senegal, from which exudes the mucilaginous gum of the same name, are plentiful in the drier and sandy parts of the country.

## COLONY OF THE CAPE OF GOOD HOPE.

THIS territory, upon the recent English conquest, was found to be of more considerable extent than had been supposed, being 350 English miles in length, and 233 in breadth, comprehending an area of 128,150 square miles\*. The white inhabitants, exclusive of Cape Town, do not exceed 15,000, and the whole may be about 20,000. The Dutch settlement was formed in 1660. To the S. E. of Cape Town are some small vineyards, which yield the noted wine called Constantia; and even in remote districts there are plantations of various kinds: but large tracts are irrecoverably barren, consisting of ranges of mountains, and level plains of hard clay sprinkled with sand, commonly called *karroos*. The mountainous chains run from E. to W., being probably terminating branches of a spine passing N. and S. like those of the Uralian ridge. The first ridge is from twenty to sixty miles from the sea; the second, called the Zwart Berg, or Black mountain, is more

lofty and rugged, and about the same distance from the first; the third is the Nieuvelde, which with the second incloses a great karroo or desert, rising like a terrace about 300 miles in length E. and W., and 80 in breadth. The country is more fertile towards the Indian ocean than towards the Atlantic, a character which seems to pervade Africa, as on the east is Abyssinia, while on the west is the Zaara. The chief resorts of trading vessels are False Bay on the S. and Table Bay on the N., which opens to Cape Town. The mountains in the vicinity of the Cape are of blue schistus, and indurated clay, mingled with balls of granite. On the granite and clay is siliceous sandstone, surmounted by granular quartz: this description may extend to most of the inland mountains; but those called the Copper mountains, S. lat.  $29^{\circ} 40'$ , supply a prodigious quantity of that metal in the form of vitreous ore, which is smelted by the Damaras, a Kaffer or Koufisi nation in the vicinity. There are some wolves and hyenas, and various kinds of antelopes; and, among birds, eagles, vultures, kites, crows, turtle doves, &c.; more inland are all the wild and ferocious animals of Africa, and hippopotami abound in the rivers.

**BOTANY.]** There are few places whose natural history has been so ably explored as the territory of the Dutch colony at the Cape of Good Hope and the countries adjacent; nor does any seem to have better repaid the labour of research. The botany of southern Africa is more rich and peculiar than that of any other country, and most of the singular and beautiful inhabitants of our stoves and green-houses have been hence procured. Numbers however, equally remarkable, remain behind, which from their size, or from accident, or from the necessity of selection among a multitude, are as yet strangers to European cultivation. The class of bulbous-rooted plants alone might be selected as peculiarly characteristic of the Cape, for no where else are they found so abundant, so various, or so splendid. What pen can describe the innumerable gay and fragrant varieties of the *ixia*; who can reckon up the beautiful species of *iris*, *moræa*, *gladiolus*, *amaryllis*, *hemanthus*, and *pancratium*, which at the conclusion of the autumnal rains adorn the meadows at the foot of the mountains with every brilliant hue that can be imagined? At other seasons the bright *gnaphalium*, the *xeranthemum fulgidum*, and *speciosissimum*, remarkable for their flowers of red, yellow and silky white, the scented *geraniums* glowing on the sides of the hills intermixed with the hundred species of shrubby and arborescent heaths, compose a scene of unrivalled magnificence, where the eye wanders with delight from beauty to beauty, till, fatigued with splendour, it repose on the light silvery foliage of the *protea argentea*, on the vigorous green of the spreading oak, or the still deeper hue of the aspiring stone pine. The hard and stony wastes are scattered over with succulent plants of the *stapelia*, *mesembryanthemum*, *euphorbia*, *crassula*, *cotyledon*, and *aloe*; while such of them as assume the height and character of trees, mixed with the weeping willow and *mimolæ* of various kinds, overspread the banks of the temporary torrents. The forests are principally on the eastern border of the settlement, and have been but little explored; they furnish the iron wood, the African oak, the Haffagai wood, the yellow wood, a few species of *Zamia* or Sago palm, the scarlet-flowered *guaiacum*, and the incomparably splendid *Strelitzia regina*.

For a more minute account of this interesting colony, the only European settlement in Africa that deserves the name, the reader is referred to the excellent work already quoted, which forms a striking contrast

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traff with the gasconades of Le Vaillant. Mr. Barrow visited the Kouffis in the east; and conceives that a belt of that race spreads across to the Atlantic. The Nemakas are of the same race with the Hottentots; but the Damaras on the Copper Mountains, and north to the Orange river and tropic of Capricorn, are Kouffis, a race whom our author suspects to be of Arabian extract, as they widely differ from the Hottentots and the negroes, and are acquainted with the smelting of copper, and some other rude arts. The country of the Damaras is so barren and sandy that they cannot keep cattle. The Orange river, also called the Groot or Great river, seems to rise about S. lat. 30°, long 28° E. from Greenwich, and passes W. by N. till it join the sea between the Great and Little Nemakas. There are high cataracts, and it has inundations like the Nile. On the shores are carnelians, calcedonies, and agates. "The rains in the great mountains beyond the Kaffers and the Tambookies, along the feet of which the Orange river runs, collecting their tributary streams in its passage, commence in November, and cause the inundations to take place towards the Nemaka country in December." Mr. Barrow's account terminates with part of the country of the little Nemakas, included in the colony; beyond which are the Copper Mountains and sandy deserts.

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## THE EASTERN COAST.

*Natal.—Delagoa.—MOCARANGA.—Mozambic, &c.—Add.*

ON leaving the colonial possessions, in this direction, first appear the Kaffers, or properly Kouffis, and the Tambookies, beyond whom there is deep obscurity. What is called the coast of Natal is followed by the bay of Delagoa. Farther to the north, and opposite to the large isle of Madagascar, are Sabia, Sofala, and Mocaranga, regions better known from Portuguese narratives. The coasts of Mozambique and Zanguebar, on the last of which is the city of Melinda, visited by Vasco de Gama, are succeeded by the desert and obscure coasts of Ajan and Adel; the last bordering on Abyssinia, and completing the circuit of Africa.

Of the bay of Delagoa, and the adjacent country, an account has recently been given; and it is frequently visited by vessels employed in the Southern whale fishery\*. One of the chief rivers which enter the bay is the Mafumo: and the natives on the northern and southern banks follow distinct customs, the men on the former wearing singular helmets of straw. On the southern side are fourteen chiefs, subject to a king called Capelleh, whose dominions extend about 200 miles inland, and about 100 on the sea shore, computed by the natives in days' journeys of twenty miles each. Cattle and poultry are abundant, and may be purchased for a trifle; the favourite articles being blue linens, old clothes, brass rings, copper wire, large glass beads, tobacco, pipes, &c. The fish are numerous and excellent, and turtle is taken on Deer Island. The soil is a rich black mould, sown with rice or maize in December or January; the dry season lasting from April till October.

\* White's Journal of a Voyage from Madras, &c, 1800. 419.

There

There are many fruit trees and useful plants, particularly the sugar cane; but no horses, asses, nor buffaloes. The wild animals are the tigers, rhinoceros, antelope, hare, rabbit, wild hog, with guinea hens, partridges, quails, wild geese, ducks, and some small singing birds. The natives are Kaffers, that is pagans; of a bright black colour, tall and stout; they go nearly naked, and are tattooed. They are a good-humoured and harmless people, and fond of excursions on the rivers. Like the rest of Africa, the country is not populous; and Mr. White supposes that the inhabitants around this large bay may be from six to ten thousand.

The most civilized and powerful kingdom seems to be that of Mocara, absurdly called Monomotapa. The soil of this country is said to be fertile, though the plains be exposed to great heat; while the mountains called Lupata, or the Spine of the World, form a great chain stretching from N. to S. covered with perpetual snow. The people are almost naked, and, like those of the western coast, superstitiously afraid of magical charms. According to the doubtful accounts of this country, the king on days of ceremony, wears a little spade hanging by his side as an emblem of cultivation. The children of the great are retained at court as hostages; and the king sends annually an officer to the provinces; when the people testify their fidelity by extinguishing their fires, and kindling others from the officer's torch. The emperor's guard is said to consist of women lightly armed. The Portuguese have here two fortresses, and another station near the mountains of Fura, which are said to abound in gold. It is to be regretted that they do not publish accounts of their African settlements, which would be extremely interesting in the obscure geography of that continent; but they are of all nations the most illiterate, and the most determined enemies of their own celebrity.

The Moors, or Arabs, are established in considerable numbers on the coasts of Ajan and Zanguebar, and seem to have invented the term of *Kafraria*, for in the Arabic *Kafra* signifies an unbeliever; whence the appellation, as being wholly vague and uncertain, should be dismissed from geography.

The kingdom of Mozambique or Mozambico, is considered as subject to the Portuguese, who had a considerable town of the same name, situated in an isle, the governor being dependent on the viceroy of Goa. Zanguebar is said to be a marshy and unhealthy country, but abundant in elephants: it is chiefly inhabited by the Mocuas, partly Pagans, partly Mahometans. The little kingdom of Quiloa is also dependent on the Portuguese, with that of Mombaza, from which they were expelled in 1631, but regained their possessions in 1729. Melinda, a Mahometan state, is also partly dependent on the Portuguese, who have a fortress in the city, and several churches. The coast of Ajan is chiefly Mahometan, and carries on a considerable trade in ivory, ambergris, and gold. Brava, a little aristocracy, pays tribute to the Portuguese, who have not been able to encroach on Magadasho, or on the kingdom of Adel, which last was dependent on Abyssinia, and is said to be a fertile country. This state was founded by a Mahometan prince at the beginning of the sixteenth century, the capital being Auzagurel, standing on an eminence near the river Awash, which comes from Abyssinia: and Zeila, on the Arabian gulf, is a considerable port.

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## THE ISLE OF MADAGASCAR.

THIS noble island of about 840 G. miles in length, by about 220 of medial breadth, being esteemed one of the largest in the world, though seemingly exceeded by Papua, and still more by New Holland, if the latter must be classed among islands. It seems to have been unknown to the ancients, for Ptolemy's geography of eastern Africa appears to terminate with the isle of Pemba. The first certain mention of Madagascar is by Marco Polo, in the thirteenth century, who describes it by its present name, having received his knowledge from the Arabs\*. Among other singularities, he mentions that large bird which is called Ruc by the Arabs, and by the moderns the condor. It would seem that the Mahometan religion had made some progress: but the discoveries of the Arabs in Asia and Africa form an important object in geography, which deserves to be investigated by some writer eminently versed in oriental lore.

This island appears to have escaped the notice of Gama, who coasted along the African shore; and is said to have been discovered in 1506, by Lorenzo Almida, whence perhaps it is called the isle of St. Lawrence. The French navigators in the reign of Henry IV. called it Isle Dauphin; and the latter ingenious people having repeatedly settled here, it becomes perspicuous from the accounts of their writers, while the Portuguese settlements remain in comparative darkness. Rochon† informs us that this island may contain about two hundred millions of acres of excellent land, watered by rivers and rivulets, from a long chain of mountains passing in the direction of the island, and separating the eastern from the western coast, but approaching nearer to the former. The two highest mountains are Vigagora in the north and Botistmeni in the S. The scenery is strikingly grand and picturesque, diversified with precipices, cataracts, and immense forests. The flax, from the description, seems to approach that of New Zealand; other products are, sugar canes, cocoa nuts, bananas, tobacco, indigo, pepper, gum lacca, benzoin, amber, ambergris, &c., and the variety of valuable plants is prodigious. Cattle, buffaloes and sheep abound. There are no lions, tigers, elephants, nor horses. Many of the most valuable minerals occur, among which are beds of pure rock crystal, often used for optical purposes, and erroneously styled Brazil pebble‡, and it is said three kinds of gold ore, with topazes, sapphires, emeralds, and spotted jaspers, commonly called blood stones. The natives are rather above the middle stature, and are of various origins; some being negroes, others tawny or copper coloured; but the complexion of the greater part is olive, and it would seem that the Arabs, in very early times, penetrated very far into Africa. The French settlement of Fort Dauphin is in the S. E. extremity of the island, and the French are chiefly acquainted with the southern part. Almost all the villages are built upon eminences, and surrounded by two rows of strong palisades within which there is a parapet of earth, four feet in height; and sometimes there is a ditch, ten feet in breadth and six in depth. Their chiefs are only known by their red caps, worn by the common Moors, and of which there is a noted manufacture at Tunis. Their authority is incon-

\* Lib. iii. cap. 89.

† Voyage to Madagascar, 1792. 8vo.

‡ It is quarried in huge blocks near the bay of Antongil, and also in the mountains of Ambohimena in the northern part of the isle. Rochon, p. 247.



siderable, yet they are sometimes regarded as proprietors of the land, and receive a small quit rent. Writing is not unknown, and there are some historical books in their native tongues; but their learned men, whom they call *ombiafes*, use only the Arabic characters. In the province of Matatan are many magicians, greatly dreaded by the ignorant natives. The paper is made of papyrus, which the Madagasses call *sanga-sanga*; and the ink is the decoction of a certain bark. The whole island is said to have been conquered by the Arabs about three hundred years ago: but their first settlements here and in southern Africa may be nearly as ancient as those in Abyssinia, and of Mahometanism there are only faint traces. From the account of Rochon the traditions of many tribes point to a very early Arabian origin. The nobles are styled Roandrians; and the Anacandri are descended from these and black women. The native blacks are classed as descendants of the ancient chiefs, and preserve their right of killing animals, usurped in other cases by the Roandrians, who regard the profession of a butcher as the most honourable. The next class cannot kill animals, but have some privileges unknown to the Ontzoa, or third cast. The Ondeves, or *lost men*, are slaves by extraction. They suppose that seven women, originally created, were the mothers of the different casts; and there is a faint but singular resemblance of Hindoo traditions. Polygamy seems confined to the chiefs; the women are lively and cheerful, and form the chief delight of their husbands. The achievements of the French in Madagascar have been detailed by many of their writers, from Flacourt to Rochon. The most singular perhaps is that of the Polish adventurer Benyowsky, who, pretending to establish an independent power among the natives, was attacked by a detachment sent from the Isle of France, and slain on the 23d of May 1786\*. Few countries in the world are more deserving to be the seats of a powerful independent monarchy.

The knowledge that we have of the plants of Madagascar is chiefly derived from a few French authors; of these Flacourt is the principal, having given a list of three or four hundred. Unfortunately however he mentions only their native names, and describes them by fancied resemblances in their form or medical properties to those of Europe. Hence the greater part are wholly unintelligible, nor is it without some hesitation that we give the few following Linnæan species, as probably included in the catalogue of the above mentioned author.

Of esculent plants there are the rice, banana, yam, nymphæa lotos, several kinds of dolichos or kidney bean, gourds and water melons, and cocoa nuts. The fruits are, pine apples, tamarinds, oranges, and pomegranates. The spices and other condiments are common, and betel pepper, ginger, turmeric, cinnamon, and sugar. The Indian fig grows here, as also does the ebony, the bamboo, the cotton, and indigo.

A few Madagascar plants have been obtained of late years, of which the only species interesting to the general reader are the Mauritanian mulberry with green fruit, and the gummiphora *Madagascariensis*, whose juice concretes into an elastic gum exactly similar to the caoutchouc of Cayenne.

\* See his Memoirs, London, 1790, two vols. 4to. v. ii. p. 93, &c., and Rochon's Madagascar, p. 253. The last author, p. 164, gives a curious account of the Kimos, a nation of dwarfs, living amidst inaccessible rocks.

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## THE SMALLER AFRICAN ISLANDS.

*Pemba — Comoro. — Mauritius and Bourbon. — Kerguelen's Land. — St. Helena. — Ascension. — Cape Verd Islands. — Canaries. — Madeira.*

**T**HESE shall be traced from the eastern coast towards the west. Those in the Red Sea are too minute for general geography: and the isle of Socotra has already been described under Arabia, to which it belongs. The islands of Pemba, Zanzibar, and Monfia, are opposite to the coast of Zanguebar. Pemba is said to be about 100 miles in circumference, governed by a king, who pays tribute to Portugal; to which power the two others are also said to be subservient. At a considerable distance to the east are the isles of Mahé and Almiranti, interspersed with many rocks, and of small account.

The islands of Comoro are four in number, of considerable size, particularly Angazzia, or the greater Comoro. That of Anzoan has a convenient harbour, sometimes visited by ships passing to India. These isles are governed by Pagan or Mahometan chieftains, tributary to the Portuguese; and are reported to be very fertile in rice, oranges, lemons, sugar, cocoa, and ginger; the natives carrying on some trade with the Portuguese of Mozambico. The domestic animals resemble the European.

To the east of Madagascar are the islands of Mauritius or France, and Bourbon, French settlements, well known in the commercial world\*. The isle of France has a tolerable port, the centre of the oriental force and commerce of the French. The isle of Bourbon, colonized in 1654, is about fifty leagues in circumference, of a circular form, rising to high mountains in the centre; and there is a noted volcano, difficult of access, at the summit of a mountain a league from the sea: the eruptions are frequent and continual. Mauritius, or the isle of France, was first possessed by the Dutch, who abandoned it in 1712, and the French settlement began to acquire some stability under Bourdonnais in 1734. There are two crops every year of wheat and Indian corn, but manioc was the food of the negroes. The isle of Bourbon produces sugar canes; and in both the cattle are numerous. In 1766 M. Poivre, author of the *Voyage of a Philosopher*, was governor of these isles, and the advantages of appointing men of science to such stations was evident from his introduction of the bread-fruit tree, and also of the nutmeg and cinnamon.

Far to the south lies Kerguelen's Land, so called from a recent French navigator, but by Captain Cook the Isle of Desolation. This region must be classed among the African islands, as it approaches nearer to that continent than to Australasia, which may however claim the small islands of Amsterdam and St. Paul, only frequented on account of the seal fishery. Kerguelen's Land is described and delineated in the last voyage of Cook, to which the curious reader is referred. In wildness, and iron-bound sterility, it rivals New Georgia, and the southern Thule. Proceeding towards the west are several other desert islands, surrounded with the floating ice of the antarctic ocean, and chiefly discovered by Marion in 1772. That of Tristan da Cunha is unknown to recent accounts.

The south is here the region of cold and desolation, and on proceed-

\* A prolix history of Mauritius was published in 1801, by Charles Grant, Viscount de Vaux. The isle of Bourbon has been lately called *Reunion*.

ing towards the north the scene improves. St. Helena is a beautiful island, possessed by about three hundred English families, the governor residing in a fort with a small garrison. There is a village, with a church, in Chapel valley. The planters are occupied with their cattle, hogs, and poultry; but when East India ships arrive each house becomes a little tavern. This interesting isle was discovered by the Portuguese, who stocked it with animals and fruit trees; but there was no settlement when the English took possession about the year 1600. There is only one harbour, which is difficult of access. The isle of Ascension, between Africa and Brazil, was discovered in 1508; and has an excellent harbour, frequented by homeward-bound ships, who here find turtle and sea-fowl. This island is of considerable size, but mountainous, and the soil a barren sand.

On approaching the African shore to the north of Congo, and passing the neglected isle of St. Matthew, where the Portuguese have a small settlement, first appears the isle of Annabon, followed by St. Thomas, Prince's Isle, and that of Fernando Po. The isle of St. Thomas was discovered by the Portuguese about 1460, and settled by them in despite of the climate, which is foggy and singularly unhealthy. But the soil is remarkably strong and fertile, domestic animals abound, and the produce of sugar is prodigious. There is a bishop, who is a suffragan of Lisbon. The town of Pavoacan is on the eastern side of the island. Prince's Island is also fertile, with a good harbour, and a town of about two hundred houses on the northern shore; it is inhabited by about forty Portuguese and 3000 negro slaves. Fernando Po seems destitute of any good harbour, and abandoned to the goats and seals; but the Spaniards retain the nominal possession.

Several other small isles arise on the African shore\*; and it is probable that in ancient periods these were still more numerous, but the sand, which has blocked up many of the rivers, must have united the islands, particularly at their mouths, with the continent. The first distinguished group in this quarter is that opposite to Cape Verd, whence it has received its name. These isles were discovered by the Portuguese in 1446. They are ten in number, the two largest being that of St. Jago in the S. E. and St. Anthony in the N. W. The air is hot and unhealthy, and most of the isles stony and barren; the chief trade being in salt, and goat skins. Some produce rice, maize, bananas, lemons, oranges, citrons, with cotton, and sugar canes; and there is abundance of poultry. Ribira, the chief town and bishopric, is in St. Jago.

Far to the north the Canary Islands, or Fortunate Islands of the ancients, form an interesting range from west to east. They were conquered by the French in 1402, under the celebrated Jean de Bethencourt, afterwards styled king of the Canaries†. The isle strictly called Canary is smaller than Fuertia Ventura and Tenerif. The latter is the most remarkable, deriving its name, according to Glas, from *thener*, a mountain, and *is*, white. In the recent astronomical voyage of Verdun de la Crenne there is an accurate account of the Peak of Tenerif, which was found 1742 toises above the level of the sea, or about 5000 feet lower than Mont Blanc. It is said to be visible at the distance of

\* Among these may be mentioned the Bissagos, and the little isle of Goree, a settlement sheltered by the bold prominence of Cape Verd.

† Histoire de la premiere Decouverte et Conquete des Canaries. Paris 1630, 4vo. See also Glas's History of the Canary islands; London, 1764, 4to.

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† Ib. 10

*eighty leagues* \*. This celebrated mountain cannot be ascended, on account of the snows, except from the middle of July to the end of August. First occur pumices, interspersed with obsidian of beautiful and various colours, followed by broken lava. The summit resembles a cone placed on a table, or rather small base, and can only be ascended by a zig-zag path on the south. The cold is extreme; the nails become black, and the hands and feet swell. In the middle of the summit is a deep reverfed cone, called the cauldron, about fifty fathoms in diameter, and bordered with hideous calcined rocks, mostly red or white, the perpendicular depth being about 150 feet: at the bottom are perceived reddish spots, upon a kind of white earth like plaster, and mingled with sulphur. Around are many little mouths from one to four inches in diameter, which at short intervals respire, as it were, a thick hot fetid smoke. The largest hole, about eight inches in diameter, is within the crater, exhaling with a sound, like the bellowing of a bull, and the smoke is so hot as instantly to burn the hair of the hand. Yet the rocks immediately adjoining are covered with wet moss, like those by the side of a cascade.

The ancient inhabitants of the Canaries were called Guanches by the Spaniards, and were strangers to the use of iron, their weapons and instruments being of what they called *tabona*, or black obsidian. The chief trees are wild olives, cypresses, laurels, and pines of two kinds. It was reported by Spanish writers that there was a tree in the isle of Ferro which gathered the vapours, so that the inhabitants were thus supplied with water dropping from the leaves. The product of these islands is wheat, barley, and oats; and the excellent Canary wine is chiefly from Tenerif and Palma, which also yield considerable quantities of sugar; while Gomera is noted for silk; and the tree yielding the gum called dragon's blood is not uncommon †. They have most European domestic animals. The capital of the seven inhabited islands is the town of Palma, in the isle of Canary; but Tenerif is the most populous. The inhabitants are computed at 140,000; of whom 64,000 belong to Tenerif, in which isle the governor usually resides, though the royal audience, of which he is president, be established at the capital of Canary. There is considerable internal trade with Tenerif; and the wine is chiefly exported by the English. Filtering stones, from the isle of Canary, and from Fuerta Ventura, also form an article of traffic.

The island of Madeira is chiefly remarkable for excellent wines, being about 18 leagues in length by 7 in breadth ‡. The capital, Funchal, the residence of the governor and bishop, is in a fertile vale, on the south side of the isle, a handsome town, with about 11,000 inhabitants, there being about 64,000 in the whole island. The chief trade is with the English, who export about ten or twelve thousand pipes of wine annually; the remainder, about seven thousand, being consumed in the country. The richest merchants are English or Irish catholics. The interior consists of high mountains, visible at the distance of twenty leagues. To the N. E. is the small isle of Porto Santo, only remarkable in the history of Portuguese discovery. It is however a fertile little isle, with a good harbour sometimes visited by East India ships.

\* Tome i. p. 121: supposing the height to be 1742 toises, the summit might be visible at sea, at the distance of 33 leagues.

† Ib. 103.

‡ Ib. l. 30.

## INTERIOR PARTS.

Of the interior parts of Africa, Darfur alone may be said to be distinctly known; while concerning the remainder there are only vague reports. Mr. Browne, to whose independent love of science we are indebted for the first account of Darfur, informs us, that Cobbé, the capital of this country, is a pleasant little town, full of trees of different kinds; and, during the rainy season, the ground on which it stands is surrounded by a torrent. The inhabitants are almost all merchants and foreigners. The other more noted towns of the kingdom are Sweini, Kúrma, Cubcaba, Ril, Cours, Shoba, Gidid, Gellé; for a description of which the reader may consult the original work. The merchants are chiefly from Upper Egypt, Tunis, and Tripoli.

The rains fall in Darfur from the middle of June till the middle of September; and the cares of agriculture begin with the rains\*. The goats are more numerous than the sheep, whose wool resembles hair. Cows are abundant, but the milk not very palatable; camels are numerous. The lion, the leopard, the hyena, wolf, jackall, and wild buffalo, are too familiarly known; but the tiger is not mentioned; and Mr. Browne has expressed his opinion, as already stated, that this terrible animal is not a native of Africa. To these may be added the elephant, the rhinoceros, the giraf, the hippopotamus, and the crocodile. Perhaps the rhinoceros with one horn, called by the Arabs Abukurn, or the father of the horn, may have given rise to the fable, if such it be, of the unicorn. The antelope and ostrich are also common. For the other animals Mr. Browne's very intelligent work may be consulted. The copper brought from the mines in the south is of excellent quality, and iron is abundant; but the little gold is brought from the countries in the E. and W. Among the trees are the tamarind, or fruit of India, oriental plane, sycamore of Egypt, and others enumerated in the original work.

The government is regal and hereditary; yet a battle often decides the succession. The army cannot exceed two thousand men, whence our author concludes that the population may be about two hundred thousand souls. Allowing the justness of this calculation, in Abyssinia, where the royal army amounts to twenty thousand, the population might be two millions. The manners of the people of Darfur, in regard to the intercourse of the sexes, are dissolute in a supreme degree, and a modest woman would be regarded as a natural curiosity.

The journey of Hornemann from Cairo to Fezzan contains little remarkable. The petrified wood, found in the desert, sometimes presents entire trunks of trees more than twelve feet in circumference, sometimes only branches and twigs, and pieces of bark, particularly that of the oak. This singular circumstance would seem to shew that the country was formerly inhabitable, till overwhelmed with sand from the decomposition of the rocks; but our author supposes that they present marks of a great inundation, because they are intermingled with a vast quantity of oyster shells, salt, and lakes of salt water. The history of the globe is inexplicable. Hornemann says, that the cultivated part of Fezzan may be three hundred B. miles N. to S., and two hundred W. to E., comprising, however, a mountainous region on the E. and some deserts on the south and west, but he computes the population at only 70,000 souls.

\* Travels, p. 234.

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One of the most remarkable novelties to be found in the journey of Hornemann, is that the habitable parts of the wide desert of Zaara are occupied by the Tibbos on the E. of Fezzan, and the Tauriks on the W.

#### DISCOVERIES AND CONJECTURES CONCERNING THE CENTRAL PARTS OF AFRICA.

HAVING completed this arduous circumnavigation of the globe, and arrived on the confines of Europe, whence the description first proceeded, one topic yet remains, which has considerably interested public curiosity. The interior parts of Africa present many geographical deficiencies, both in the northern and southern parts of that wide continent. The patronage of the African Society has already contributed greatly to the increase of our knowledge, not only by collecting recent oriental intelligence, but by exciting various travellers, particularly Mr. Park, to the accomplishment of this grand design; and though these laudable efforts have not been attended with all the effect that might have been wished, yet the precision of modern knowledge begins to dawn; and it is to be hoped that the travels of Mr. Hornemann will importantly tend to remove the remaining defects. The materials hitherto presented have been used with care by that celebrated geographer Major Rennell, whose succession of maps of the northern part of Africa, from 1790 to 1800, form of themselves curious specimens of the uncertainty of the subject, of the variations in the author's ideas, and of the progress of African geography.

The travels of Mr. Browne, merely to satisfy his own curiosity, and his fondness for oriental manners, have also contributed most essentially to our knowledge of northern Africa, not only by the geography of Darfur and Kordofan, but by ascertaining the origin and progress of the Bahr el Abiad, or real Nile; and by disclosing several circumstances towards the west, particularly a large river rising in the mountains of Kumri, and proceeding N. W., which seems to be the Gir of Ptolemy, and the Nile of the negroes of Edrisi. It needs scarcely be added that as the source of the Nile, and the river running N. W., are striking features of Ptolemy's map, there is reason to infer that his intelligence deserves in other respects great credit.

All the recent information however, assisted by that of Ptolemy, will only throw a faint light on the northern half of this wide continent, as far as the central ridge of Kong, continued in a N. W. and S. E. direction across to the mountains of Kumri, and those on the south of Abyssinia, perhaps extending to Ajan on the eastern shore. The interior of the southern half of this great continent will remain a theme equally interesting, and still less known. In proceeding first to give some idea of the discoveries and conjectures concerning the northern half, it will be proper to begin with ascertaining where the light of discovery terminates.

From the travels of Mr. Park, and the map constructed by Rennell, it appears that three great rivers, the Gambia, Senegal, and Joliba or Nigir, rise from a chain of lofty mountains, N. lat. 11°; and as Browne lays down the mountains of Kumri, which gives source to the Nile and

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Bahr Kulla, in N. lat.  $7^{\circ}$ , it seems sufficiently evident that this grand chain proceeds across the continent, especially as it was observed by Mr. Park as far as he penetrated. This enterprising and ingenious traveller pursued the course of the Joliba from long.  $5^{\circ} 30'$  W. of Greenwich to Silla, long.  $1^{\circ} 30'$  the utmost extent of his expedition. Not to mention curious and interesting information concerning the manners and present state of the countries through which he passed, we are indebted to Mr. Park for the Moorish kingdom of Ludamar, where he was detained at Benowm, and for another called Beeroo, the capital of which is Walet, while to the E. is the celebrated kingdom of Tombuctoo. To the south of these are the negro kingdoms of Kaarta and Bambarra, the capital of the last being Sego; beyond which, about 70 g. miles to the N. E., is Silla. The chief geographical objects in Mr. Park's route are the river Joliba, and the town of Sego. The word *Joliba* signifies the Great Water; and when this river was first described by our traveller, it was flowing slowly to the eastward, and glittering to the morning sun, with an expanse as abroad as the Thames at Westminster\*. He soon after arrived at Sego, the capital of Bambarra, which consists of four divisions, surrounded with high mud walls, two on the north side of the river, and two on the southern. The houses are in a square form, with flat roofs; they are of clay; some have two stories, many are white washed. Several mosques also appear, yet the streets are narrow, wheel carriages being unknown. The inhabitants are computed at 30,000, but such calculations are usually exaggerated. The king resides on the southern shore; and people are ferried in canoes, consisting of two large hollowed trees joined at the ends. Around is a slender cultivation.

In Ludamar Mr. Park learned, from a sheref who arrived with salt and some other articles from Walet, the capital of Beeroo, that Houssa was the largest town he had seen, Walet being larger than Tombuctoo†. At Silla Mr. Park collected intelligence from the Moorish and negro traders, who informed him that two days' journey to the E. is the town of Jenne, situated on an islet in the river; beyond which, at the distance of two days, is the Dibbi or Dark lake, in crossing which from W. to E. the canoes are said to lose sight of land for an entire day‡. From this lake the river issues in several streams, terminating in two large branches, which join at Kabra, one day's journey S. of Tombuctoo, and the port of that city or town. At the distance of eleven days from Kabra, the river passes to the southward of Houssa, which is two days' journey distant from the Joliba. "Of the farther progress of this great river and its final exit, all the natives seem to be entirely ignorant§." To the eastward of Houssa is the kingdom of Kaffina. The present king of Tombuctoo is named Abu Abraham, and is said to be rich, his wives and concubines being clothed in silk. The kingdom of Houssa is of superior consequence. To the S. of the Nigir were mentioned the kingdoms, or rather districts of Gotto; to the W. of which are Bædoo and Maniana, the inhabitants of the last being reported cannibals. So far Mr. Park's intelligence in the west, which terminates with Houssa, about E. long. from Greenwich  $4^{\circ}$ .

On the eastern side Mr. Browne's intelligence extends to long.  $17^{\circ}$ ; so that there is a deficiency of thirteen degrees, or 780 g. miles; but this space unfortunately comprises the most interesting portion of northern Africa, and especially the termination of the Nigir; and to the N. W.

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\* P. 291. 8vo.

† P. 319.

‡ P. 317.

§ P. 319.

of Darfur the deficiency becomes more extensive. To the S. of Cobbé, at the distance of twenty three days, are noted copper mines; beyond which, at the distance of seven days and a half, is the Bahr el Abiad. Mr. Browne's map is unfortunately laid down with little care, and the river is placed too near the mines. To the W. is the river of Kulla, the banks of which, according to Mr. Browne's information, abound with pimento trees, and the ferry-boats are partly managed by poles, partly by a double oar \*. The trees are so vigorous, from the quantity of water and deep clay, that canoes are hollowed so large as to contain ten persons. The natives of Kulla are partly negroes, and partly of a red or copper colour; and the country is chiefly frequented by Jelabs or traders from Bergoo and Fur, in order to procure slaves. On the W. of Bornou Mr. Browne heard of Afnou, which is a negroe word for Soudan or Nigritia in general, but is particularized as a country abundant in silver: and there is a remote part of the Pagan country called Gnum-gnum, where the people eat their captives taken in war; but this can scarcely be the Maniana of Park, and it is probable that the mountaineers in the S. retain, as usual, the most ancient and ferocious manners.

Thus far the rays of modern intelligence throw a faint light upon northern Africa; and beyond, all is theory and conjecture. But amidst this uncertainty there are two sources of information which deserve preference till more precise knowledge can be obtained. These are Ptolemy, who wrote in Egypt before the negroes were envenomed with Mahometan fanaticism, and after the Roman arms had penetrated to the Nigir; and the Arabian authors, who by the progress of Mahometanism, had the best intelligence concerning this continent. Yet upon the whole Ptolemy's information and exactness will obtain a decided preference over the fabulous turn and gross inaccuracies of the Arabian geographers.

The most remarkable error, or inaccuracy, in Ptolemy's map is that he certainly conceives the Nigir to rise in the mountains of Thala; or, what amounts to the same, he supposes that the river terminated in a lake in the W. which he calls Nigritis Palus; whence it was clearly the opinion of this great geographer that the Nigir ran from E. to W. in which he seems to have been misled by confounding it with the Gir. The last river he clearly deduces from mountains in the S. E. so as to correspond with the Bahr Kulla, though he be a stranger to its remote source. This river is another grand feature of Ptolemy's description, which has escaped modern geographers, though D'Anville, 1749, had inserted it with his usual knowledge and industry. It is represented as receiving two tributary streams from two lakes; and among other cities on its banks is a metropolis called Gira; as upon the Nigir there is another styled the Nigira.

It has already been observed that this geographer has omitted the Zaara or Great Desert, and that the interior part of his map is laid down from land routes, while the western coast is from maritime expeditions. On the south his latitudes are equally erroneous, as he places the sources of the Nile, and the mountains of the moon, in S. lat.  $13^{\circ}$ , instead of N. lat.  $6^{\circ}$  or  $7^{\circ}$ ; an error of about 20 degrees, or 1200 g. miles!

Having thus briefly examined the leading points of Ptolemy's African geography, that of the Arabs will not be found deserving of equal

\* Browne, p. 308.

attention. The most celebrated is Edrifi, who wrote in Sicily in the twelfth century, but from his minute attention to eastern Africa he was formerly styled the Nubian geographer. By some strange inadvertence the towns mentioned by this author, who wrote six centuries and a half ago, have been inserted in modern maps, while perhaps there is not one of them in existence. Setting this aside, it will appear, from an accurate examination of Edrifi, that while his Nile of the Negroes, which he says runs to the W., has been mistaken for the Nigir, he really knew nothing of that river; and his Nile of the Negroes is the Gir of Ptolemy, terminating in an inland lake, in which was the island of Ulil, one day's sail from the mouth of the river; and in which island another Arabian geographer places the capital city of Soudan. Beyond this lake and island Edrifi appears to have had no knowledge of central Africa.

The most curious and important discoveries which remain are probably the river Gir, and the lakes, marshes, or deserts, which receive that river and the Nigir; the latter being an object of great singularity, equally unknown in the time of Ptolemy and at the present day. Perhaps in a level plain these large rivers send off various branches, gradually lost in the sands; but Ptolemy and the Arabs indicate a great central lake, which could scarcely so long have escaped more precise notice, except we conceive that the northern part is surrounded with deserts, and the southern with lofty and inaccessible mountains, covered with forests and full of ferocious animals, so that the traders only passing the northern part and Isle of Ulil, are complete strangers to its southern extremity.

As in Asia the chief obstacles to discovery have not been the sandy deserts of Cobi or Shamo, but the inaccessible mountains of Tibet; so in Africa it would appear that the impediments must arise from high mountains, and not from sandy deserts, such as are familiarly passed by caravans in every direction: it is also probable that these mountains are covered with thick forests, and the thorny underwood frequent in Africa, sometimes inhabited by aboriginal tribes of the greatest cruelty and ferocity, and at others swarming with lions, tigers, and panthers. It would have been most beneficial to the natives if, as in Asia and Europe, victorious armies had established wide empires; and, at the expence of temporary destruction, had secured lasting intercourse and general advantages.

The continual wars between petty tribes seem also to conspire with a ridge of impassable mountains, called Lupata, or the Spine of the world, to prevent discoveries in the interior of southern Africa, where the map of D'Anville, half a century ago, presents every thing that is known with any degree of certainty at the present day. By a singular fatality Africa, the least known of all the continents, has become the portion of the Portuguese, the most ignorant of all the European nations. In the hands even of the Russians considerable light would have been diffused, while the Portuguese darkness renders all surrounding objects as vague and obscure as if they belonged to the twelfth century. Besides the chain of mountains pervading this part of Africa from N. to S. or perhaps two chains at a considerable distance, supporting an upland terrace in the centre, whence there are no rivers of prodigious size as in south America, the chief feature yet known seems to be a lake of great extent, called Maravi, laid down by D'Anville as more than 350 B. miles in length, but of inadequate breadth. This lake may perhaps, like that of Baikal, lie at the foot of the table-land on one

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side, as that of Aquilunda, of far smaller extent, does on the other. The rivers of Barbela in Congo, and Zambezi in Mocaranga, are also grand features; which seem to be delineated by D'Anville in his general map of Africa, and his particular maps of Congo, Angola, and Mocaranga, 1731, with as much care and precision as his Portuguese materials would admit. The navigation of the Zambezi is interrupted, for about twenty leagues, by cataracts or violent rapids, about the distance of 140 leagues from the sea. To the north are, or were, the Mumbos, a race of cannibals, who with the Zimbos and Jagas, savages of equal cruelty, have desolated a great part of southern Africa. Should the Portuguese retain their possessions, it is likely that the darkness may be the same in the year 2002 as it is in 1802, when it is little better than it was in 1602, some accounts having been then published by Lopez and Philip Pigafetta. It is to be regretted that in our strict alliance with Portugal we do not instigate that government to use some means to improve the geography of southern Africa: and La Cruz's map of South America should operate as a stimulus and example. It is probable that the country is as fertile in the precious metals as the other continent, and it is wholly unaccountable, and a truly singular destiny, that America should be filled with European colonies, while Africa is neglected. Small colonies on the shores could effect nothing in such a country, and the wrongs of Africa can only be terminated by a powerful European colony, an enterprize worthy of any great European nation, a scene of new and vast ambition, and among the few warfares which would essentially contribute to the eventual interests of humanity, and raise a degraded continent to its due rank in the civilized world.

Meanwhile it is more consonant with the tenor and purpose of the present work to express a humbler wish, that spirited travellers would explore these regions, as the fame of science is superior to that of arms: and if we cannot diffuse civilization, and the blessings of stable and subordinate society, we may, at least, by comparison, learn duly to prize their advantages.



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# CATALOGUE OF MAPS,

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### BOOKS OF VOYAGES AND TRAVELS.

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*In the Maps the Letter L denotes the Large, M the Middle, S the Small, as explained in the Preface. A complete Catalogue of Books of Voyages and Travels might fill Two octavo Volumes; but here only a few of the most useful and interesting are enumerated, especially the more modern\*.*

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#### *Globes.*

**B**Y Adams, Cary, Bardin. The last from drawings by Mr. Arrow-smith, with the newest discoveries, are deservedly esteemed; and the celestial globes are also executed with great care and precision. In Cary's celestial globe, 1798, the constellations are only marked by bounding tints, and the eye is not distracted with the ridiculous figures of animals, &c. Some astronomers however, and they are the best judges, prefer the ancient figures, on account of speedy and accurate reference †.

#### *Planisphere.*

By Arrowsmith, 4 sheets, 1794, &c. excellent. His pamphlet called "A Companion to a Map of the World," explains the projection, and contains some valuable information. There are planispheres published at Vienna, &c. stereographically projected for the horizon of the place of publication ‡.

Smaller Planispheres by Faden, Harrison, &c. Northern and Southern Hemispheres, Faden, 1 sh. each 1802.

#### *On Mercator's Projection.*

Of this Mercator was not, however, the author, as it was used long before his time. The best on this projection is that by Arrowsmith, 1790. &c. 8 sh. That of Faden, 1 sh.

#### EUROPE.

*Maps L.* By de Bouge, Vienna, 1799, 50 half sh. middling. By Sotzmann, in 16 sh.

\* The most commodious form of arranging maps in a library seems to be that lately adopted, of pasting them on canvas, and putting them into a case which stands erect like a quarto volume, there being six folds in the sheet of large atlas paper. The volumes being titled on the back, and each map or part labeled, it may be consulted with ease without the trouble of a large bound atlas, or the confusion of detached sheets.

† In general geography Varenus may still be consulted, with the first and only volume of Macfai, Edin. 1780, 8vo. There is a *Catalogue Raisonné des Cartes* by Julien, 1774, 2 tomes, 8vo. now rather antiquated; he was also, it is believed, the vendor of Homann's maps.

‡ Boullanger's map of the world, 1760, is on the horizon of a point 45° of the height of the pole towards the north. In 1774 Father de Gy published one similar, projected on the horizon of Paris. These maps present, under one point of view, the four parts of the world, which, as Fleurbaey says, nature has assembled under the same hemisphere.

M. By D'Anville, 6 sh. 1754. Arrowsmith, 4 sh. 1798.  
S. Faden, &c. 1 sh. 1791.

*Books.* The geography of Busching in German, or the French translation, 1785, 14 vols. 8vo. a prolix work, but containing excellent materials. Supplemental to Busching's Europe are the America of Ebeling, 1797, and the Africa of Bruns, 1799; the former tedious, the last good. Asia was begun by Borheck 1793, but seems incomplete. In the French abstract of Busching by Berenger, Lausanne, 1776, &c. 12 vols. 8vo. tolerable accounts of the other regions are added, but the want of references renders them unsatisfactory\*.

### England.

L. The surveys of the several counties, particularly Surrey and Sussex, by Linley and Gardner, which are trigonometrical. Some of the best surveys are published by Faden.

The grand trigonometrical survey of England will speedily appear before the public, in part of Essex; (the map of Kent being a specimen of the plates, but not of the plan.) It is reported to excel in accuracy, abundance of positions, clearness, and beauty. The whole sheets are filled to the edges; and when finished will compose one uniform map, like Cassini's map of France.

M. Smith's Atlas. Cary's Atlas of the counties. Cary's England and Wales, 81 4to sh. La Rochette's map, 12 sh. Andrews, 6 sh.

S. Kitchin's map, 4 sh. Faden, &c. 1 sh. 1800.

The maps in Saxton's Atlas, and Speed's Theatre, may be consulted for the sake of curiosity.

Camden's Britannia. Aikin's England delineated. Pennant's Tours. Campbell's Political Survey, a tedious but useful work. Arthur Young's Tours. Voyage de St. Fond, &c. &c.

### Wales.

The maps by Evans, 9 sh. Reduced 1 sh. (North Wales). Of South Wales there is an old bad map by Bowen, 6 sh. Pennant's Tours, Evans's Cambrian Itinerary, Aikin's Journey, &c. &c.

### Scotland.

L. The surveys of various counties.

M. Ainslie's map, 9 sh. Dorret's map, 1750, 4 sh. several mistakes.

S. General Roy's map, very scarce. Pennant's, &c. Ainslie's reduced. All 1 sh.

\* Exclusive of the old systems of geography by Moll, &c. there are in English; Bowen's, 1747, 2 vols. fol. maps: Middleton's 1777, 2 vols. fol. maps: but the best of the kind is that by Fenning, or rather Collyer, who informs us that Fenning only wrote the astronomical introduction. The fourth edition is 1773, 2 vols. fol. with maps by Kitchin. It is, like the others, a decent compilation of the more amusing parts of geography, but is totally deficient in discussion or information strictly geographical. Vol. I. contains Asia and Africa; Vol. II. Europe and America. It is unnecessary to mention the successive grammars, as they are absurdly called, of Gordon, Salmon, and Guthrie. Many mistakes of the latter may be traced in Collyer, neither of them being versed in geography and science.

Statistical Account, 21 vols. 8vo. Camden's Britannia, by Gough. Pennant's Tours. Scotland Delineated. Voyage de St. Fond, &c. Volkmann's Travels in Scotland and Ireland, Leipzig, 1784, 8vo.

*Ireland.*

L. Surveys of some counties.

M.

S. By Dr. Beaufort, 1792, 2d edit. 1797, 2 sh. Dr. Beaufort's map reduced, 1 sh. Faden. Taylor's 1793, 1 sh. Faden.

Young's Tour, 2 vols. 8vo. excellent. Camden's Britannia, &c.

*France.*

L. Cassini's 183 sh. begun in 1744, 70 sheets were executed before 1767; and the whole was not completed till very lately (about 1794). Atlas National, 85 sh. neat, the mountains being etched, so that the shade does not injure the lettering.

M. The smaller Atlas National. Several sheets reduced from Cassini, Faden, &c. &c.

S. On the scale of D'Anville's Ancient Gaul, 1780, 1 sh. Faden's, &c. 1792, 1 sh. Index sheet to the large map of Cassini. In departments by Belleyne, 4 sh. *France Physique*, or a map of France, shewing the mountains, rivers, &c. by Buache, 1 sh.

Voyage dans les Departments, a declamatory work, full of the new philosophy and sentimental hypocrisy. Description General, Paris, 1781, folio. Voyage Pittoresque, Paris, 1784, folio. Arthur Young's Tour, solid and excellent. Moor's View of Society in France. La Croix Geographie.

*Netherlands.*

L. By Ferraris, 25 large sh.

M. Atlas des Departments Beligiques. By Schreml, from Ferraris, 4 sh. Frontiers of Holland from Ferraris, Faden, 1 sh.

S. By Crome, 1 sh. Reduced from Ferraris, by Faden, 1 sh. 1789.

Marshall's Journey, &c. &c.

*Russia in Europe.*

L. Maps of the several governments; but these are in the Russian character, and unfit for general use. The same, recent, 9 sh. Some governments, by Trescott, &c. in Latin.

Dezanchi's map of the Crimea. The Krim by Kinsbergen, 4 sh. Van Kulen's chart of Spitzbergen, 2 sh. &c. &c.

M.

S. Russian Empire, 3 sh. Petersburg, 1789. By Trescott and Smidt, 1776, 3 sh. Post map to Tobolsk, 2 sh. Reduced map, 1 sh. London. Kyrelof's map, 1734, 2 sh. curious.

Tooke's View of the Russian Empire, 1799, 3 vols. 8vo. Tooke's Russia, 1781, 4 vols. 8vo. Voyage de Pallas, Paris, 8 vols. 8vo. Histoire des Decouvertes, &c. Lausanne, 1784, 6 vols. 8vo. Giorgi's (pr. Ghiorgi) Description of all the nations in the Russian Empire, Peterburg, 1776 to 1780, 4 vols. 4to. in German, or in French. Coxe's Travels, &c.

#### *Austrian Dominions.*

L. There are large provincial maps of most of the Austrian dominions, and the most modern are generally the best; among the others may be mentioned, Atlas of Tyrol, 21 sh. Atlas of Bohemia, by Muller, 25 sh. Military Atlas 20 sh. Moravia, by Venuto, 2 sh. Gallitz and Lodomer, by Lieskany, 42 small sh. Hungary, by Artaria and Company, 4 sh.; By Schrembl, 4 sh. better. Transylvania, by Schrembl, 2 sh. Slavonia, &c. by the same, 2 sh. Venetian territory (in Dalbe). Atlas of Gallitz and Lodomer, with the Bukovin, by Maire, 12 sh.

M. Austria, by the Artarian Company, Vienna, 1800. 1 large sh. Bohemia, by Schmettau, 4 sh. Venice, &c. by Santini. Chauchard's Germany. Oblong Atlas, by Kempen, too minute and crowded. Western Gallitz, by Lichtenstern, 1 sh.

S. Austrian dominions, 1 sh. by Baron Lichtenstern, 1795; this map embraces the Netherlands. Hungary by Windisch, 1 sh.; the same in Townson's Journey, 1 sh. Muller's Bohemia, reduced, 1 sh. Bannat, 1 sh. Old maps of the Venetian territory, by Nolin, 2 sh.; by De Witt, Homann, Sanfon, Jaillot, 1 sh. antiquated; the last mentioned is the best.

Townson's Travels in Hungary. Riefbeck's Travels. Wraxall's Memoirs. Born's Travels in Hungary and Transylvania, and those in the Bannat. Beaumont's Rhætian Alps. Dalmatia, by Fortis.

#### *Prussian States.*

L. Poland and Prussia, by Zannoni, 25 sh. Atlas by Sotzmann, 21 sh. All the provinces published separately. Atlas of Silesia, by Mayer, 20 sh.

M. Sotzmann's, 16 4to sh.

S. Prussian dominions, a French map reduced from Sotzmann, 2 sh. Reduced by Sotzmann, 1 sh. 1800.

Marshall's Travels. Coxe. Riefbek. Wraxall, &c.

#### *Spain.*

L. The geography of this country is imperfect; the best atlas is that of Lopez, but it is poorly and inaccurately executed. The coasts have been drawn by Tosino, the royal astronomer, with great care, and published at Madrid 1798. As Lopez remains the chief authority for the interior, a brief view of his work may be proper.

*Atlas Geografico de Espana, compuesto por Don Tomàs Lopez y Vargas, Geografo por S. M. de Sus Reales Dominios, de la real Academia de S. Fernando, de la real Sociedad Bascongada, &c. Madrid 1792. Imperial 4to. Map 1. Ancient Spain. 2. Modern Spain, single sh. 1788; longitude from*



from the Peak of Tenerif. He accuses the foreign maps of errors in the division of the governments, and the course of mountains and rivers. 3. The Pyrenees, from Sanfon. 4. Modern Spain, 4 sh. by Lopez, 1792. 5. Province of Madrid. 6. Ditto of Toledo. 7. Archbishopric of Toledo, 4 sh. Then about 36 provincial maps, with Majorca, Minorca, Ivica, or Iviza. States of Barbary. The harbours of Tripoly and Tunis. The bay of Algiers, with the attacks 1783 and 1784. Plans of other African harbours. The Islands Azores. The Canary Islands. Particular maps of the Canary Islands. Chart of the gulf of Mexico, and of the West Indies. Cuba, Hispaniola, Porto Rico. The Lesser Antilles, or Caribbee Islands. The Islands Lucayos. The environs of Mexico. Tierra Fermé. Province of Carthagena. Other American provinces. Plan of Quito. Marianne Islands, by Lopez, 1784. In Spanish maps the north is marked by a castle, the badge of Castile.—Minorca, 2 sh. by de la Rochette, 1780.

M. Spain by Mentelle and Chanlaire, Paris, 1799, 9 sh. well engraved.

S. By Lopez, 4 sh. By the same, 1 sh. Faden, 1 sh.

Townsend's Travels. Burgoang, Baretti, Link, &c. Those of Dillon are chiefly translated from Bowles's Spanish work on the natural history of the country. Ponz, Viage de Espana, 12 vols. 8vo. Madrid, 1776\*. Swinburn's Travels, 4to. Fischer's Travels, 1801. 2 vols. 8vo. Fr. tr.

#### *Turkey in Europe.*

L. Geography very imperfect. Moldavia, 6 sh. by Bawr. Moldavia, &c. 1788, 2 sh. Danube by Mansfeld, 7 small sh. The same by Marfigli. Bulgaria by Schenk. Bessarabia, &c. by Gussfeld. Greece by D'Anville; and the Atlas to the Travels of Anacharsis. The Propontis by Zemenic; by Chevalier, 2 sh.; and the two straits published by Faden, 1786, (by La Rochette).

M. Wallachia by Ruhendorf, 1788, 1 sh. curious.

S. Turkey in Europe by Arrowsmith, 2 sh. Faden's Map, 1 sh. Greece by La Rochette, 1 sh.

The Travels in Greece and the Levant are innumerable. Among the best are Wheeler, Chandler, and Tournefort, with the Voyage Pittoresque, and Stewart's Antiquities of Athens. D'Ohsson Tableau de l'Empire Otoman, 2 tomes fol. The last by Olivier, 1802, is only another voyage to the Levant. Yet the northern and western parts of Turkey in Europe have been rarely visited. Bosovich Viaggio da Constantinopoli in Polonia, con una sua relazione delle rovine di Troja, Bassano, 1784, 8vo.

#### *Holland.*

L. there are provincial maps of all the provinces, but the new survey will be preferable. Wiebeking's Holland and Utrecht, 1796, 8 sh. North Holland, 16 sh. Reduced, 4 sh.

\* There are many other large descriptions of Spain, as the Atlante Espanol, 14 vols. 8vo. There is also an Universal Geographical Dictionary by Pere; in 3 vols. 4to.

M. The

M. The United Provinces by Zepp, a good clear map.

8. The Seven United Provinces, with the Land of Drent and Generality Lands, 1794, by Faden, 1 sh. Mr. Faden's maps are in general highly to be praised for accuracy and neatness.

Ray's Travels. Those of Marshall and Mrs. Radcliffe, &c. &c. Febvre Itineraire, 1784, 2 tomes, 12mo. Pilati, 1780, 2 tomes, 12mo.

#### *Denmark.*

L. Most of the provinces are completed under the direction of Bygge the astronomer; and some good maps of the shores, &c. have been published by Lowenorn.

M. The Isle of Zealand, &c. by Wessel, 1777, 1 sh.

S. Denmark Proper, (by E. P.) Copenhagen, 1763, 1 sh. miserably engraved. Norway by C. J. Pontoppidan, 1785, 3 sh. good, and decently engraved. The same in Baron Hermelin's reduced map. Iceland by Erichsen and Olavius, 1780, 1 sh. but the projection is erroneous, the length being one-third too great: See the Voyage of La Crenne, Paris, 1778, and the Journal of Zach, vol. vi. The Ferroe Isles by Lowenorn. Norway and Sweden, 1 sh. Faden. The same, Pontoppidan, 1 sh. There are several maps of Denmark, Sweden, Norway, and Iceland, all comprised in 1 sh.

Marshall's Travels. Coxe, &c. Von Troil's Iceland. The map is carelessly drawn, and among other omissions are the names of the rivers: in p. 5. there must be some gross error in distance. Voyage to Norway by Fabricius, 1779, in German.

#### *Sweden.*

L. Baron Hermelin's Atlas of the Provinces, Stockholm, 1797, is excellent, and adorned with interesting prospects in Lapland, &c.

M.

8. Hermelin's reduced map. Faden's by La Rochette. 1704.

Travels of Maupertuis, Coxe, Marshall, Wrxall, &c.

#### *Portugal.*

L. The geography is perhaps worse than that of Spain; and Link has pointed out many gross errors in the maps by Lopez, &c. A new survey is in progress.

M. By Lopez, in 8 sh. bad. By Jefferys, improved by Gen. Rainford, 6 sh. new edition, 1790.

S. The chorographical map by De la Rochette, published by Faden, 1797, 1 sh. perhaps the best yet executed. Compare it with that by Lodge after Zanoni. For a gross error of Lopez see Link, p. 257.

Link's Travels, 1801, 8vo. the best account yet given of the country. Murphy, Southey, &c. Lima's Geography of Portugal, 1736.

Description

Description of Portugal, Lisbon, 1785, with an account of Portuguese saints \*.

*Switzerland.*

L. The Atlas by Weifs, geographical engineer, Strasburg, an. 8, 1800. &c. excellent.

M. The old map by Scheuchzer, 4 sh.

S. The reduced map by Weifs, 1 sh. excellent. By Mechel, 1799, 1 sh. good. That in Coxe's Travels is of little value, from the great superiority of these two.

Coxe's Travels, the best of all the modern series. Bourrit, Description des Glaciers. The celebrated Travels of Saussure to the Alps chiefly relate to the French and Italian chains.

*German States.*

L. There are large maps of most of the electorates. *Saxony*: The military atlas, &c. and the maps of the districts. *Brunswick-Lunenbourg*, or *Hanover*: many maps of the districts. Mecklenburg Schwerin, 16 sh. Strelitz, 9 sh. Duchy of Berg, 4 sh. On the *South of the Mayn* there is an atlas of Bavaria by Riedl: and an atlas of Suabia, (including, of course, the Duchy of Wurtemberg,) in 30 sh. The Duchy of Wurtemberg by Vischer, 1 sh. Of all the other states there are also topographical maps †.

M. Chauchard's map of Germany 9 sh. (the supplement may well be omitted) has a deserved reputation; but it is to be regretted that he has not specified the mountains and hills. Maps of Germany, north and south of the Mayn, are wanted on a large scale. The electorates, &c. may be had in single sheets. Wiebeking's Lower Rhine, or Frontier between France and Germany 10 sh. †.

S. A map of Germany in 4 sh. by Covens, bad. By Zannoni, middling. By Klein, in some estimation. Germany, 4 sh. by de la Rochette. Dominions of the King of Great Britain in Germany, 1 sh. Faden, 1789. Germany, from the map of the Royal Academy at Berlin, Faden, 1788, 1 sh. The German rivers, 4 sh. The same, 1 sh.

Riesbeck's Travels, the best general journey through Germany. Nugent's in Mecklenburg, dull. The Travels on the Rhine by Mrs. Radcliffe, Cogan, Gardnor, &c. Travels in Germany are either too local, or embrace France and Italy, as Keysser, &c. &c. In German are those of Nicolai, 8 vols. Leske in Lusatia. The Hartz by Lasius; or the

\* The Azores properly belong to Europe, and should be included in maps of that quarter. The description should have followed that of Portugal, the nearest land, and to which they belong. The most recent account is that of Adanson, in his Voyage to Senegal, 1759, 8vo. There is a detached map by Lopez; and another by Simpson, published by Laurie and Whittle. One by Tosino, 1 sh. excellent. By Bellin, 1 sh. 1755.

† The maps of Homann are now of no use except for German Provinces. Homann of Nuremberg died in 1724; but his heirs and successors continued to publish maps under that name for forty or fifty years; and among the latter there are some of German provinces executed by able hands. See a memoir concerning Homann in the Geograph. Ephem. Nov. 1801. p. 464. There are some good recent maps of German provinces by Mannert of Nuremberg. Jaeger's Germany, 81 sh. coarse. Hanover Post map, 4 sh.

‡ Wiebeking's maps of the Rhine, 1796, are very complete.

iter of Ritter, 1740, 4to. On the S. of the Mayn, Bianconi's Bavaria, and the German works of Hacquet and Gerken.

### Italy.

L. The maps of the various states divided into provinces, &c. States of the King of Sardinia by Borgognie, 25 sh.; copied by Faden, 1765; 12 sh. Ligurian Republic, 8 sh. Republic of Genoa by Chaffrion, copied by Faden, 1783, 8 sh. An excellent large new map of Naples, by Zannoni, is in progress.

M. Each of the states on one sheet. Naples by Zannoni, 1769, 4 sh. Sicily by Schmettau, 4 sh. good and scarce. Dominions of the Church, by Maire and Boscovich, 3 sh. Lombardy, &c. by Zannoni, 4 sh. very rare. Cisalpine Republic, by Delamarche, 2 sh. Malta and Gozo by Palmeus; copied by Faden, 1799, 2 sh. &c. King of Sardinia's dominions by Caroly, 4 sh. (For Venice, &c. see Austria.)

The travels in Italy are very numerous. Among the best may be mentioned Cochin, 3 vols. 8vo. Paris 1773, useful for artists. Lalande, 9 vols. 8vo. with an atlas, Paris, 1716, a good general compilation\*. Martyn, London, 1791, 8vo. the best short guide. Moore's View of Society and Manners in Italy. Dr. Smith's Travels, 1793, 3 vols. Young's Travels in France, for the north of Italy. To which may be added the travels of Ferber, Spallanzani, and Tozzetti, &c. and the *Diarium Italicum* of Montfaucon. Swinburn's Travels in the Two Sicilies.

### Asia.

By D'Anville, 6 sh. still a valuable map for consultation and comparison. By Arrowsmith, 1801, 4 sh. the best extant.

### Turkey in Asia.

By Hazijs, Vaugondy, &c. 1 sh. The Euphrates and Tigris by D'Anville. Palestine by the same †.

The Travels of Sandys, Wheeler, Chandler, Chevalier, &c. &c. Maundrell's Journey to Jerusalem. Russell's Aleppo, &c. Mariti's Cyprus.

### Asiatic Russia.

The maps of the governments are of little use, being in the Russian character. Those of the Russian empire have been already mentioned. There are Latin maps of some of the governments by Trescott and others. The two Latin maps of the river Irtysh, by Islenieff, are curious and important; as is Mr. Ellis's Map and Memoir of the Country between the Caspian and the Euxine, 1788.

Voyage de Pallas, Giorgi, &c. These interesting travels are abridged in the *Histoire des Decouvertes Russes*, Berne, 6 vols. 8vo. Patrin,

\* The Description Historique of Richard, 6 vols. 8vo. is preferred to Lalande.

† In general the best maps of Asia, America, and Africa, may be consulted for each country.

Voyage au Mont Altai, 1781, 12mo. Muller, *Histoire du fleuve Amur*, 1766, 12mo. Bell's Travels, &c.

### *Chinese Empire.*

Atlas by D'Anville, which ought to accompany the work of D. Halde. There are 42 maps of various sizes, of which 16 contain China Proper and its provinces, actually surveyed, in the course of many years, by the jesuits, and probably with as much accuracy as the methods and instruments then used would admit. Eastern Tatar, or more properly the country of the Mandshurs and Monguls, has also some claims to accuracy, as the jesuits attended the emperor on frequent journeys into these provinces: but to the west of the river Etzine little dependence can be placed; and the delineations of Little Buchar, and Tibet are certainly grossly inaccurate.

Tatary by Witsen, 1687, 6 sh. curious, must not be confounded with that by De Witt, 1 sh. By Strahlenberg, 1737, curious.

The best small map of China is that of D'Anville, 1 sh. This country is also well delineated in his Asia, and in that of Arrowsmith. Part of the empire is illustrated in the maps of Islenieff, and the Russian maps of the boundaries. See also the maps in Grosier's account of China: but particularly those in the *Histoire Generale de la Chine*.

Nieuhoff's Voyage, excellent. Du Halde's China. Ozbeck's Voyage. Gaubil's Genghiz Khan, Paris, 1739. 4to. for the Chinese geography of Mongolia. The *Memoires Chinoises* by Amyot, Paris, 15 vols. 4to. chiefly relate to the manners, sciences, and history of the country: but the *Histoire Generale de la Chine*, 12 vols. 4to. is an interesting work, and a singular monument of French science. Add the excellent Travels of Bell, 2 vols. 4to. or 8vo.; and particularly Sir George Staunton's Account of the embassy to China, and Van Braam's Travels.

### *Japan.*

There is no good large map, those of Kämpfer only displaying part of the coasts along which he travelled, while his general map is small. D'Anville has made some improvements; and there is a map in one sh. by Robert \*.

Kämpfer's Japan, and Thunberg's Travels, both excellent.

### *Birman Empire, &c.*

The maps in Mr. Symes's Journey. The geography of Exterior India is very imperfect, but expected to be improved by the researches of Mr. Dalrymple. For Siam D'Anville's map of Asia may be consulted; and for the outline of the coasts the charts of D'Aspre's, which are deservedly esteemed.

Louhere's Siam. Turpin, *Histoire de Siam*, Paris, 1771, 2 vols. Richard, *Histoire de Tonquin*, Paris, 1778, 2 vols. 8vo.

\* Messrs. Roberts, the father and son, were geographers of considerable reputation, particularly Robert, styled de Vangondy.



*Hindoestan.*

Rennell's map, 4 sh. De la Rochette's, 1 sh. good, 3d edit. 1800. Rennell's Atlas of Bengal. His map of the southern part, dated 5th April 1800. D'Anville's Hindoestan is antiquated and full of mistakes. Peninsula of India, Faden, 1795, 2 sh.

Hamilton's New Account of the East Indies. Voyage de Bernier, excellent, though old. Bartholomeo (Wesdin's) Voyage, excellent for the southern parts. Hodges's Travels. Voyage de Sonnerat, 2 vols. 4to. The account by Tieffenthaler, in Bernouilli's collection, is a dull and tedious chorography. Knox's Ceylon, &c.

*Persia.*

There is no large map of this interesting country. That of de Lisle \*, in 1 sh. may be compared with the Asia of D'Anville or Arrowsmith. The materials are vague and imperfect; and there can be little dependence on the longitudes or latitudes even of the best Oriental geographers. The recent map by Wahl is illegible; but deserves to be re-engraved in a superior manner, and on a larger scale. That of La Rochette, to illustrate the marches of Alexander, is very beautiful, and drawn up with considerable care. Georgia and Armenia, 4 sh. 1780.

Voyage de Chardin, 4 vols. 4to. Thevenot's Travels, bad. Tavernier, good. Le Brun, bad, and the plates seem to be frequently fabrications, as usual in the Dutch books of travels †. Hanway's Travels are good, though prolix. The Journey of Franklin instructive and amusing for the southern part, while the northern is well illustrated by Gmelin. After Olivier's first volume, little can be expected from his second. Otter's Journey, 1742, ranks among the best, but he is too full of quotations from the Oriental geographers. Della Valle esteemed. The Journey of Olearius, of the envoys from Holstein.

*Arabia.*

Maps of several provinces occur in Niebuhr's description; and it is to be regretted that he did not publish an entire new map. There is an old map by Vander Aa; but the best are those in the Asia of D'Anville and Arrowsmith, the former is published apart by Laurie and Whittle, as are likewise Persia, and Turkey in Asia.

Niebuhr, Voyage en Arabie, 2 tomes, 4to, and his Description de l'Arabie, 1 tome, 4to. To which may be added, la Roque, Voyage en Arabie Heureuse, and the Voyage dans la Palestine, Paris, 1717, 8vo. which contains Abulfeda's Description of Arabia.

*Asiatic Islands.*

Chart by Arrowsmith, 4 sheets, excellent. D'Anville's Asia. Map of Sumatra, in Marfden. Of Java, in Stavorinus. The Philippines,

\* There is one by Homann of Nuremburg, but that manufacture is in little esteem. In the Voyage of Niebuhr there is an interesting map of the vicinity of Persepolis.

† Those published by Vander Aa are particularly obnoxious; the prints, as in Mandelstam 1719 or 1717, being often transferred from old books; nay, sometimes, the same view will serve for a great number of places, whether they stand on rocks or plains.

D'Anville or Arrowsmith's Asia. Of the interior of Borneo, Celebez, &c. little is known.

Marsden's Account of Sumatra. Forest's Voyage to Papua. Voyages of Stavorinus, &c. &c. Valentyn's account of the Dutch possessions in the East Indies, published about 1728, consists of eight large folio volumes, with upwards of a thousand copper plates, and is extremely rare even in Holland. Sonnerat, Voyage de la Nouvelle Guinée, 4to.

#### AUSTRALASIA.

New Holland, &c. in Arrowsmith's Chart of the Pacific, 9 sheets. The same reduced, 1 sheet.

De Brosse's, Histoire des Navigations aux Terres Australes, Paris, 1756, 2 vols. 4to. excellent. Dalrymple's Collection of Voyages in the Pacific, 2 thin vols. 4to. and Supplement, curious and interesting. La Borde, Hist. de la Mer de Sud, Paris, 1791, 3 vols. 8vo. Cook's Voyages. Governor Phillip's. Collin's History of the Colony, 4to. &c.

#### POLYNESIA.

Arrowsmith's Chart of the Pacific. Maps in De Brosse's; and of Otaheite and Tongataboo in the Missionary Voyage. Island of Navigators, in that of La Perouse, &c. &c.

Cook's Voyages, Captain Bligh's. Those of La Perouse; The Missionary Voyage. Gobien's Account of the Ladrone's. Description of the Caroline Islands in the Supplement to De Brosse's, &c. &c.

#### AMERICA.

North and South by D'Anville, 5 sheets, 1746, 1748, or by Green, 1753, for the progress of the geography. But there is no recent general map of this continent, which can be recommended. That of Delisle, 1739, 1 sheet, curious, and exact for the time. By La Rochette, 1797, 1 sheet.

Morse's American Geography, 4to or 8vo.

#### NORTH AMERICA.

Arrowsmith's map, with improvements and additions to 1802, about 5 feet by 4, excellent. It is to be regretted that the Spanish dominions in North America are not included. For these recourse must be had to D'Anville, or to the map of the West Indies by Jefferys, 16 sheets.

#### United States.

L. There are maps of most of the provinces; and a general Atlas published at Philadelphia, but in little esteem.

M. Arrowsmith's map, with corrections to 1802, 4 sh.

S. Single sheet, common. The provinces in Mr. Morfe's work.

Morfe's Geography. The travels of Kalm, Burnaby, Weld, Rochefoucault, Briffon, &c.

#### *Spanish Dominions in North America.*

A great deficiency in the geography, as the Spaniards are peculiarly jealous of these rich settlements, their chief tenure on the new continent. The Mexican dominions in general seem delineated with considerable accuracy in the map of the West Indies by Jefferys, 16 sh. corrected and improved to 1792; and the same reduced, 2 sh. or Bolton's maps in Postlethwayte's Dictionary of Commerce. There are maps of some provinces by Lopez. Others by Sanfon of Old and New Mexico, &c. California by Constanzo, 2 sh. 1771. New Spain, by Alzate, in Spanish, 1 sh. The environs of Mexico may be found in Careri, from a drawing by Boët, an engineer employed to drain the lake. Another in Clavigero. The bay of Honduras and environs are published apart by Faden. A new map of the Spanish dominions in North America, excluding the West Indies, is greatly wanted.

Recourse must be had to old writers, the best being Gage, 2d edit. 1655, fol. or the French translation, Amst. 1721, 2 vols. 12mo. The 6th, or last vol. of Gemelli Careri contains New Spain. This work is now acknowledged by the best judges to be genuine, and a voyage round the world has ceased to attract much observation, as there would be little difficulty in passing to China, and thence to America and Europe. There seems no doubt that Careri performed this circuit: the fault is that the book is rather a diary of trifles than a work of solid information. There is a Spanish history of Cinaloa by Perez de Roxas. For Louisiana, now subject to the United States, the works of Du Pratz, Charlevoix, &c. may be consulted. The voyages of Pagés round the world, and to the north and south pole, seem very doubtful, as may be judged, among other circumstances, from his description of Mexico. The best recent account of Mexico, but unfortunately short, is given by Chappe D'Auteroche in his voyage to California, London, 1778, 8vo. Memoirs of the Jesuits concerning California, 3 vols. 4to. Madrid, 1757. Noticias Americanas, Mad. 1801, 8vo. Cardenas, Historia de la Florida. Alcedo's Dictionary.

#### *British Possessions.*

Arrowsmith's map of North America. Smith's Upper Canada, 1 sh. 1800.

The Travels of Hearne and Mackenzie, Lahontan, Charlevoix, Weld, &c.

#### *Native Tribes.*

Colden's Five Nations. Laffau's Manners of the Savages, but the figures do not represent the people; and the descriptions are not of unimpeached

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impeached accuracy. Charlevoix. Du Pratz. Greenland, by Egede, or Crantz. Travels by Carver, Hearne, and Mackenzie, &c. Adair's History of the American Indians contains a few curious facts, distorted by an absurd system.

*North American Islands, or West Indies.*

Large maps may be had of most of the Islands. The West Indies by Jefferys, 16 sh. Reduced 1 sh. Bolton's maps in Postlethwayte's Dictionary, and those in the History of the West Indies by Mr. Edwards.

Labat's Voyages to the West Indies, 6 tomes, 8vo. There are detached French voyages to several of their islands: but the accounts of the Spanish are, as usual, antiquated. Among the English are Ligon's Barbadoes. Sloane's Jamaica. Jefferys has published an account of the Spanish Islands, with 32 maps and plans, London, 1762, 4to. The best account of the British is that by Edwards. Raynal's work is sunk into disesteem, and is said by Mr. Edwards to have no more truth than Robinson Crusoe. He was one of the new French philosophers, who affect to be learned by special inspiration.

**SOUTH AMERICA.**

The map of La Cruz, engraved at Madrid for royal presents, 1775, and published at London, by Mr. Faden, 1779, 6 sh. the best yet given. Maps of some of the provinces are among the works of Lopez, but as usual, of little accuracy. The environs of Quito, where the degree was measured, may be found in Bouguer, or in the French edition of Ulloa. In 1750 D'Anville published the province of Quito, 4 sh. But La Cruz must be preferred, though by a ridiculous failure he have omitted to denote in a proper manner the great chain of the Andes, and the other ridges; there are also some political disguises. In 1774 Falkner, who had been a missionary, published a map of Patagonia in 2 sh. but it will be found very erroneous, when compared with La Cruz. The Rio de la Plata, and some other portions, are also published apart; and our assiento and contraband trade has contributed to improve the geography.

*Spanish Possessions.*

The maps above mentioned. Peru from the astronomical observations of Condamine, &c. Paris, 1 sh. Malespina's Survey of the coast, from the Rio de Plata to Panama, S. and W. 5 sh. excellent.

The voyage of Ulloa. The best translation is the French, 2 vols. 4to. for in the English, 2 vols. 8vo. many important tables, &c. are omitted; and the prints so miserably reduced that they are alike useless and unpleasant. Voyage de Condamine. Lettre de Monsieur Godin. Bouguer, Figure de la Terre, for an excellent account of Peru. Dobrizhoffer, &c. &c. Wafer's description of the Isthmus of Darien, 1699. Voyage de Frezier, 1717, 2 tomes, 12mo. Gilly, Storia de Terra Firma, 4 vols. Rome, 1780. Vidaurre, Compendio del Chili, Bologna, 1776, 8vo. Viage al estrecho de Magallanes de orden de S. M. 4to. Molina, Storia Naturale

del Chili, Bologna, 1782, 8vo. Storia Civile del Chili, Bologna, 1787, 8vo. both good.

*Portuguese.*

The Portuguese are the most illiterate of European nations, and the accounts of their settlements in America and Africa obsolete and imperfect. Even the geography of their own country is a mass of errors; and if they have any maps of Brazil, they are without the smallest claim to common accuracy or reputation. Blauw published a map of Brazil, when a great part was possessed by the Dutch. The Spanish map of La Cruz is the best modern authority, though here D'Anville seem copied. In Bougainville's voyage to the Falkland Islands there are some local maps and plans.

The Voyage of Bougainville; Sir George Staunton's Account of the Embassy to China; with the works of Faria translated by Stevens; Osorio; Barros the Portuguese Livy, &c. &c.\*

*French.*

French maps of Cayenne may be compared with La Cruz; but the wide debated lands are now resigned to the French, with a yet farther extension of territory towards the river Marañon.

The Voyage of Des Marchais published by Labat, 4 vols. with a map by D'Anville; and many recent voyages, &c. &c.

*Dutch.*

There is a detached and rare, but coarse, chart of the shores and rivers, printed at Amsterdam; with several English charts of the river Surinam, by Walker, 4 sh. &c. Guiana by Captain Thompson, 1783, 1 sh.

Bancroft's Natural History of Guiana. Stedman's Surinam, &c.

*Native Tribes.*

The map of La Cruz. History of Paraguay by Charlevoix. Dohrzhoffer de Abiponibus, Vienna, 1784. Molina's Chili, &c.

*Islands connected with South America.*

Ulloa's Voyage. Bougainville's Voyage to the Falkland Islands. Cook's Voyages, &c.

\* Laftau's History of the Discoveries and Conquests of the Portuguese in the New World, Paris, 1703, 2 vols. 4to, or 12mo. ends with 1580, when Portugal became subject to Spain. It would have been valuable, as Robertson, in his History of America, has wholly omitted the Portuguese settlements; but the title is grossly erroneous, as the work is restricted to the Portuguese establishments in Hindostan, and is arranged according to the series of governors of Goa, with some slight references to African affairs; nor is Brazil perhaps once mentioned in this history of Portuguese transactions, *dans le nouveau monde*, to use the words in the title, by a portentous error which seems to evince that a man may be a jesuit and yet want common sense.



## AFRICA.

The map of D'Anville, 1749, 3 sh. is still the best, excepting the parts explored by Park and Browne, and may be compared with that of Delisle. That published by Wilkinson, 1800, 4 sh. is decent, but there are several errors, and some mistaken applications of ancient geography. The detached maps by Rennel may be consulted. In Saugnier's voyage, 1792, there is a French map which may afford some hints, but there are many mistakes. The maps in Shaw's work are singularly confused, from the mixture of Latin and Arabian names, but deserve to be re-engraved with improvements. That in Lempriere's Morocco seems tolerably exact; and from it some important positions, as the city of Morocco, the chief ridge of Atlas, &c. may be collected.

Africa by Hასius, 1737, 1 sh. By Robert, 1760, 4 sh. By Gendron, Madrid, 1754, 1 sh.

*Abyssinia.*

The map in Bruce's Travels may be compared with those of Tellez, that of Ludolf, and the Africa of D'Anville.

The Travels of Alvarez, 1520. Those of Lobo, 1625, translated by Dr. Johnson. The account of Abyssinia by Tellez, Lisbon, 1660, folio. Ludolf's Ethiopia, 2 vols. folio. Poncet's Journey, 12mo. or in Lockman's Travels of the Jesuits, 2 vols, 8vo. Bruce's Travels, 5 vols. 4to.

*Egypt.*

The map of D'Anville, and Memoir. The delta by Niebuhr, &c. Lower Egypt, &c. by La Rochette, 1802, 1 sh.

Travels of Pococke, Norden\*, Niebuhr, Browne. The late French accounts. Volney, Savary, Denon,

*Mabometan States.*

The maps of Shaw for Algiers and Tunis. The general maps and Lempriere for the others. Fez and Morocco, after Tosino, Hoeft, and Lempriere, by Canlier, 1797. Mediterranean, 4 sh, 1785, Faden.

Shaw's Travels in Barbary, or rather in Algiers and Tunis; the best edition is the 4to. The Travels of Poirer are trifling, and Chenier's book a feeble compilation. Lempriere, good. Hoeft, 1779, in Danish or German, good. Agrell in Swedish, 1800. For Tripoli, Bruce and the publications of the African Society may be consulted. The curious reader may look into Addison's West Barbary, 1671, or Ockley's 1713. In general Dr. Dapper's Account of Africa, or Ogilby's translation, may still be used with advantage, as there are few more recent accounts of several countries, whence their labours in this region alone of the globe are not wholly superannuated. Sanson published at Paris a description of Africa, 1656, 1669, 4to. with several maps.

\* There is a French edition, 1800, 4to.

*Western Coast.*

There are old maps of Congo, &c. The account of Lopez or Pigafetta, Mandelslo, Dapper\*, Cavazzi, &c. and small detached maps by D'Anville, 1731. Of the river Congo there is a chart by Maxwell, 2 sh.

A description of Congo by Lopez, or rather by Philip Pigafetta from the papers of Lopez, was originally published in Italian, Rome, 1591, 4to. whence it was translated into English by Hartwell, 1597, 4to. in Latin it forms the first part of the *Smaller Voyages of De Bry*, 1598, folio, and there is an appendix by Bruno, 1625, folio.

*Descrizione Istoria delli tre Regni, Congo, Matamba, & Angola, compilata dal P. Gio. Ant. Cavazzi.* Bologna, 1687, folio, pp. 933, large print, with plates; or Milan, 1690, 4to. This curious work was translated by Labat in his *Ethiopie Occidentale*, Paris, 5 tomes, 12mo. which must not be confounded with the *Afrique Occidentale* of that voluminous compiler. In 1776 Proyart published at Paris his *History of Loango*, from papers of French missionaries 1766, with a new but imperfect map, a curious and interesting work †.

Labat's Collection. Bosman's *Guinea*. Norris's *Account of Dahomey*. Park's *Travels*. Adanson's *Senegal*.

*The Cape.*

The Survey by Barrow. The *Travels of De la Caille*, Paterfon, Sparman, Barrow, &c. As repeated falsehoods have been detected in Vaillant's books, especially the last journey, they are chiefly to be read for amusement.

*The Eastern Coast.*

There is a small map by D'Anville, called *Ethiopie Occidentale*, which comprises Mocaranga, and other dominions of the Monomotapa or emperor, 1732; but of these singular and interesting countries the geography and descriptions are alike imperfect, nor is there even a missionary modern account of Mocaranga, Sofala, Sabia, &c †. The letters of the Jesuits probably present some materials; but Lockman's is an injudicious compilation, often containing the most trivial matters. The German voyages of Bucquoy 1771, and Thomam 1788, may be consulted.

*Madagascar.*

Flacourt has published a map: and Rochon has been contented with one of 1727. Bellin has given a large map. There are several French accounts, Rochon's being one of the latest.

\* Dapper's *African Islands* were published 1668, and his *Africa* 1670, in Dutch. The plates are used by Ogilby, 1671; and much worn in the French translation, 1686. *Sennar's Africa* has some curious maps.

† See also Zaccaria's *Account of the Mission in Congo*, published about 1712. Angelo's *Voyage to Congo*, 1668, is in Labat, tome v.

‡ Le Grand, in his dissertations annexed to Lobo's *Abyssinia*. (p. 269, Johnson's tr.) quotes *Dos Santos Ethiopia Orientale*, Evora, 1609, of which there is a French translation, Paris, 1684, 12mo.

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*African Islands.*

General map. There are detached maps of the Isles of Bourbon and Mauritius, &c.

Rochon's Madagascar. Grant's Mauritius, &c. For Kerguelen's Land, Cook's last voyage. Glais's Canary Islands, &c. For the Azores, see Portugal, as they strictly belong to Europe.

## HYDROGRAPHY.

THOUGH charts be not considered as essential in the study of geography, yet as a few of islands, &c. are admitted into collections of maps, it may not be improper to offer some hints on the subject. In a large or public library indeed the best charts should appear, as well as the best maps. But in general the chief purchasers of charts are merchants, for their counting houses; and captains and other marine officers, who procure the most recent and authentic adapted to the voyage. Such are often bound up together, in the form of a narrow oblong folio, and are styled Neptunes, Pilots, &c. Thus the East India Pilot contains more than a hundred charts for a voyage to the East Indies, or even to China, including detached charts of the isles, coasts, and harbours, which may be visited from choice or necessity. In like manner the African Pilot presents charts necessary for a voyage to the Cape: and there are Pilots for the British coasts, the Baltic, Mediterranean, West Indies, &c. Each chart may also commonly be had apart, and is often accompanied with Sailing Directions, as well as the Neptunes and Pilots, in a detached octavo form. The Dutch are careless navigators; and the best charts are the English and French. Yet the Dutch, in the sixteenth century, seem to have been the first inventors of the collections called Neptunes, Flambeaux, Colones de la Mer, &c.\*.

The most celebrated French name is that of M. D'Après de Manneville, whose *Neptune Oriental*, or Survey of the Indian Ocean, &c. is highly and deservedly esteemed by all seamen. The charts of Bellin, Engineer of the French Marine, 1737—1767, chiefly relate to the Atlantic, and their estimation is principally confined to France. His *Neptune General* fills 2 or 3 thick folio volumes. Bellin also published a small maritime atlas, in 5 vols. and a separate description of Guiana and its shores. His *Neptune Français* presents the coasts of France, Spain, England, Holland, &c.†.

In England the Neptunes and Pilots are always composed of detached charts, by various authors and observers. Mr. Dalrymple, in his zeal to promote geography and navigation, has published a prodigious number, perhaps a thousand, detached charts of isles, harbours, coasts, straits, shoals, &c. chiefly in the Oriental world. Among other works may be mentioned the American coasts, or Atlantic Neptune, by Des Barres,

\* The hydrographic work of Dudley duke of Northumberland, Florence, 1647, 4 vols. fol. is not only curious but of some value.

† There is also a *Hydrographie Française* lately compiled by Dezauche, one of the chief vendors of charts at Paris, and which contains recent French charts of most parts of the world.

1776, (too full of neology;) the various Pilots published by Mount and Davidson; Murdock's Atlantic Ocean, published by Faden; Mackenzie's Charts of the shores of Scotland and Ireland; Huddart's Chart of the Western Isles; Captain Ross Donnelly's of Ferroc, the Orkneys, Shetland, &c. 1797, which may be compared with Lowenorn's Chart of the Shetland Isles, 1787. Of the English coasts there are various charts, and it might be rash to indicate a preference. For the present purpose it will be sufficient to commemorate a few others.

Arrowsmith's Chart of the Pacific, 9 sh. and of the Asiatic Islands, 4 sh. The Indian Ocean, 4 sh. The South Sea Pilot, 28 sh.

Mr. Faden has also published several charts of great reputation, as:

Parts of the Baltic 1802, from Nordenanker and Wybe. Gulf of Finland, by Captain Goff, 1785, 4 sh. Gulf of Florida; Windward Passage; Malespina's Coast of S. America, 1802; Gulf of St. Lawrence, 4 sh. Coasts of Labrador and Newfoundland, by Lane; Bay of Brest, &c. 1802: with several by La Rochette, drawn from the best materials.

Some valuable charts have been published by Laurie and Whittle, successors to Mr. Sayer; and by others, such as Steel, Moore, Mount, and Davidson, Gilbert, Heather, &c. whose reputation can only be justly estimated by seafaring men. Even in a small collection the charts of several islands, as the Azores, the Bermudas, the Canaries, &c. &c. will be found interesting.

The coasts of Spain, published at Madrid, 1798, by Tosino, may be considered as an accession to European geography; and the same astronomer has given charts of some parts of Barbary.

These hints may suffice for the geographical student; but it may be added, under this department, that there are several voyages, chiefly published in France, professedly undertaken for the purpose of improving astronomy and geography; such are the *Voyages of Bouguer*, 1749; *Chabart*, 1753; *Courtanvaux*, 1768; *Cassini*, 1770\*; but particularly the *Voyage par ordre du Roi*, by De la Crenne, Borda, and Pingré, Paris, 1778, 2 vols. 4to. abounding with important observations, which have radically improved the geography of several countries. The *Voyage of Kerguelen* to Iceland, Greenland, Shetland, Norway, &c. Paris, 1771, or Amst. 1772, 4to. may also be mentioned in this class.

It is to be wished that travellers, instead of overwhelming us with ridiculous voyages to the Levant, would examine the geography of such countries as are little known, in which case they would contribute infinitely more to the stores of modern knowledge.

These few observations on hydrography may be considered as introductory to a brief list of the circumnavigations, and more general voyages, which cannot well be arranged under particular countries.

The *Voyage of Magalhaens* round the world was the first, for it would be ungenerous to deny the title, because that great navigator was slain in the Philippines. Pigafetta, who accompanied Magalhaens, drew up an account of this memorable voyage in Italian, which has recently been published in a splendid manner. But for general use the French translation, Paris, an. 9. will be found interesting.

The *Voyages of Sir Francis Drake*, London, 1653, 4to.

\* There is also a journey to Germany by the same author, to examine the geography of the Palatinate, &c. Paris, 1776, 4to.

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Dampier's Voyages round the World, London, 1729, 4 vols. 8vo. including Wager's Voyage.

Gemelli Careri's Voyage round the World, Naples, 1699. 6 vols. He was a lawyer, and left his country from some domestic uneasiness. That he really performed this voyage seems now to be admitted; but the book is trifling, and a voyage round the world is no longer a matter of wonder.

Anson's Voyage round the world.

Cook's Voyages, with those of Dixon, Portlock, Vancouver, Bougainville, La Perouse, &c.

To enumerate the collections of voyages would be infinite. The French *Histoire General des Voyages* is more amusing than accurate, and cannot admit of quotation or reference, as the originals must be consulted\*. The *Novus Orbis* of Grynæus is the oldest collection; which was followed by those of Ramusio, Hakluyt and Purchas. Bergeron's curious collection appeared 1630, &c. 8vo.; reprinted at Leyden, 1742, 2 vols. 4to. In 1663 Thevenot published his first Volume, which was followed by two others. Ray's Collection, 1693, 8vo.†. Harris's Collection appeared in 1705, 2 vols. fol. being a good general history of voyages: it was afterwards improved by Dr. Campbell, 2 vols. fol. 1744. 1748. Stevens's Collection of Translations, 2 vols. 4to. 1711. Voyages from the Harleian Library, 2 vols. fol. 1745. Churchill's Collection, 6 vols. fol. 1752. new edit. Astley's Collection, 4 thick vols. in 4to. rare and valuable, 1745; the editor is called Green in some catalogues, certainly a man of great learning and industry. De Brosse's Navigations aux Terres Australes, Paris, 1756, 2 vols. 4to, translated by Callander, Edin. 1766, 3 vols. 8vo. There are several modern English collections; by Salmon, 2 vols. fol. 1755. Guthrie, 7 vols. 8vo. 1767, &c. &c. Those by Hawkesworth and Dalrymple are in superior estimation. To which may be added the recent collections by Dr. Mavor. In German is the *Sammlung*, &c. a collection of the best and newest travels, Berlin, 1765—1782, 23 vols. large 8vo. In Spanish the *Viagero Universal*, already mentioned: but this last is rather a history of voyages.

\* In Spanish there is *el Viagero Universal* by Estalla, Madrid, 1796, &c. which will occupy about 40 vols. 8vo. The description of the United States and Mexico appeared in 1799. Unfortunately Spanish and Portuguese books can scarcely be procured in London.

† Dufresnoy mentions a collection, London, 1674, 4 vols. fol. and one, 1704, (Churchill's,) 8 vols. fol. with a preface by Locke.



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